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ABSTRACT

A qualitative follow-up study was conducted to determine the impacts of a program to train teachers in the use of curriculum-based vocational assessment (CBVA) for students with handicaps. The study examined the extent to which CBVA training content was used in the organization and delivery of assessment services to students with handicaps at the training sites. Four inservice and six preservice sites were included in the study; 28 vocational and special education personnel were interviewed and observed during onsite visits and by telephone. An analysis of within and across-site data revealed a pattern of increasingly comprehensive outcome levels at the sites. Findings also included the identification of key implementation variables. Three site features--the role of the system advocate, the role of the external supporters, and the nature of the work environment--appeared to be directly related to the level of training outcomes. A fourth, continued training, was found to affect implementation most markedly. A set of guidelines for training and implementation was also identified. Major recommendations included an incremental approach to training and use of a site assessment for the selection of training sites and implementation strategies. (Interview schedules, summary sheets, and 27 references are appended.) (YLB)

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A QUALITATIVE FOLLOW-UP STUDY OF A TRAINING PROGRAM IN CURRICULUM-BASED VOCATIONAL ASSESSMENT

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ABSTRACT

A QUALITATIVE FOLLOW-UP STUDY OF A TRAINING PROGRAM IN CURRICULUM-BASED VOCATIONAL ASSESSMENT

By

Lynn Safarik

August 1989

This qualitative follow-up study was conducted to determine the impacts of a field-test training program in curriculum-based vocational assessment for students with handicaps. Four in-service and six preservice sites were included in the study; a total of twenty-eight vocational and special education personnel were interviewed and observed during on-site visitations and by telephone. The study examined the extent to which CBVA training content was used in the organization and delivery of assessment services to students with handicaps at the training sites.

An analysis of with-in- and across-site data revealed a pattern of increasingly comprehensive outcome levels at the sites. Findings also included the identification of key implementation variables and a set of guidelines for training and implementation. Major recommendations included an incremental approach to training and the use of a site assessment for the selection of training sites and implementation strategies.

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Chapter 1

Introduction and the Problem

Introduction

Innovation and implementation are the basic elements of change in schools. If teachers are to incorporate the growing body of research on effective teaching into their professional behavior, they must receive on-going training. In-service and preservice training programs are the means by which new concepts, ideologies, and procedures are learned and integrated into a teacher's repertoire of classroom practices. Evaluation of these teacher training programs is necessary to provide information about effects and outcomes of newly acquired professional knowledge. The cycle is complete when evaluation data are used for program improvement and future planning.

Impact evaluation is a process by which the outcomes and effects of a training program are examined following a trainee's exit from the program and entry into the employment setting (Albright and Markel 1982). This follow-up activity focuses on changes in the trainee's performance and changes within the work place. Results of the impact evaluation can be used for program planning and improvement, to form a base for local decision making, or

to meet external requirements such as a federal funding source (Brinkerhoff and others 1983; Neilsen and Turner 1985).

The Purpose of the Study

The purpose of this study was to conduct an impact evaluation of a personnel preparation program designed to train special and vocational education personnel in the use of curriculum-based vocational assessment practices to assist handicapped students in secondary vocational education programs. The training program represented the field-test phase of a three-year national project in which a series of training modules in curriculum-based assessment and planning strategies was developed, tested, and refined (Albright and Cobb 1985).

The CBVA training program was primarily developed in response to the Carl D. Perkins Vocational Education Act of 1984, which recognized a need for a full range of assessment and planning services for handicapped students which directly relates to their vocational curricula. The CBVA training program tested a systematized approach to providing these assessment services.

The first and second project years (1986-88) included preservice training at six universities and in-service training at three secondary schools at various locations throughout the country. The in-service training groups

consisted of vocational instructors, special education teachers, guidance counselors, administrators, and vocational special education resource personnel. Pre-service trainees were professionals from a wide variety of backgrounds including rehabilitation services, special education, and vocational education. The training program entailed instruction of curriculum-based assessment principles and practices through the use of a series of modules and practical assignments. Formative evaluation data were collected from trainees and trainers during and at the conclusion of the training process. During the third project year (1988-89), the modules were refined and an accompanying trainer's manual was developed. These products were also disseminated at a national convention and a series of regional workshops during the third year.

The present study examined the extent to which CBVA training content was used in the organization and delivery of assessment services to handicapped students at the training sites. Specifically, the impact evaluation follow-up study addressed three objectives as identified by Albright and Cobb (1988b):

> (1) to determine the extent to which former trainees have implemented curriculum-based vocational assessment procedures in their programs;
> (2) to examine the impact of these procedures on system policy and practices; and,
> (3) to assess trainee satisfaction with the preparation received through the field-test program. (p.21)

This study consisted of a series of on-site interviews and observations to determine impacts of training at the three in-service sites and a sample of the six preservice training sites. The study explored changes in participants' knowledge, attitudes, and feelings about CBVA practices, and changes within the work environment as a result of the training process. By questioning participants and observing them in the work setting, a richer contextual understanding of impacts were obtained.

Since this study is part of the larger national project, the results will be used by project staff in reporting the total project to the funding agency, the Office of Special Education and Rehabilitative Services, US Department of Education. The results of the study will also be used by project personnel in refining the CBVA training program.

The Importance of the Study

Vocational education legislation, particularly the Carl D. Perkins Vocational Education Act of 1984, reflects a primary mission of vocational education to assure equal opportunity and access to special needs populations (Phelps 1986). With this trend likely to continue with the reauthorization of the Perkins Act in 1989 (Sathre 1987), the development of programs which respond to federal

guidelines for providing services for special needs students will remain as a priority in vocational education.

Specifically, sections 204 (C) (1) and (2) of the Perkins Act support the use of the curriculum-based assessment conceptual model in training vocational and special education personnel. The CBVA orientation utilizes assessment practices that are directly linked to the student's curriculum. Unlike standardized tests, curriculum-based assessment primarily occurs in the classroom, is administered by teachers and support personnel who are directly involved with the student's daily instruction, and uses informal and direct instrumentation. Curriculum-based assessment information can then be used to enhance instructional decisions related to the student's achievement and aid in determining the need for support services. These decisions are based on the environmental contingencies of a specific classroom and vocational program.

The extensive service provisions in the Perkins Act include guidelines for program information dissemination and transitional services assessment. Present assessment models lack practical guidelines in these areas (Albright and Cobb, 1987). The CBVA approach, which is based on a concept of continuous assessment, begins with the dissemination of program information to a student and his or her parents prior to entry into vocational education and

ends with planning and support for the student after completion of the vocational program and as he or she enters an employment situation and/or further training.

Although the concept of curriculum-based assessment is not new, examples of the systematic training procedures as developed in this project are virtually absent in the literature (Albright and Cobb 1987). The CBVA project established a training program in which vocational education and special education service personnel learn to collaborate in the use of CBVA assessment and planning techniques to make decisions about support services for special needs students. As suggested earlier, the project involved extensive field-testing and validation of the modules from a variety of professionals.

The proposed study, which is the impact evaluation of the CBVA training program, will yield information which can be used to improve the training process and products outlined in the larger project. If training efforts to improve curriculum-based assessment and planning processes for handicapped students in secondary vocational education programs are to continue, impact evaluations are necessary to determine the efficacy of these efforts.

Limitations of the Study

The study was limited in that detailed information about the participants of the follow-up study prior to CBVA training was not systematically collected. Ideally, information regarding assessment practices at each site and specific job functions of trainees prior to the field-test training would have established a basis for comparison. However, due to the demands of mounting the field-test program in multiple sites, the collection of these data at the outset of training was not reasonable at that time.

Furthermore, the fact that training process and products were being field-tested at the sites, limits expectations about training impacts on participants and their work places. The distinction between "field-test" and "actual" training is addressed in Chapter 3, along with an explanation of the implications of this limitation for the follow-up design.

Definition of Terms Used

The following terms are defined in order to clarify their meaning within the context of this study.

Cross-sectional study. A study in which data are collected at one point in time from several categories of individuals included in a larger population (Asche and O'Reilly 1979)

Curriculum-based vocational assessment. A continuous process used to answer questions about the instruction and special service needs of individual students as they enter into and progress through specific vocational education programs (Albright and Cobb 1988a).

Evaluation. The systematic investigation of various aspects of professional development and training programs to assess their merit or worth (Brinkerhoff and others 1983).

Expert judges sampling. A variation of purposive sampling by which a population is selected from those persons with exceptional expertise about certain conditions or factors of interest (Brinkerhoff and others 1983).

Extreme group sampling. A variation of purposive sampling by which a population is selected by seeking out conflicting or extreme viewpoints (Brinkerhoff and others 1983).

Field-test. The process of applying a principle, process, or skill in a realistic setting to collect information for purposes of refinement, improvement, and future planning (Brinkerhoff and others 1983).

Follow-up study. The attempt to secure educational, employment, or other information from or about former students for purposes of planning, reporting, evaluation, or conducting research (Asche and O'Reilly 1979).

Formative evaluation. Evaluation used for the improvement and development of an ongoing activity, or program or product (Brinkerhoff and others 1983).

Grapevine sampling. A variation of purposive sampling by which a population is selected on the basis of explicit directions from a prior member of the sample (Brinkerhoff and others 1983).

Impact evaluation. Evaluation process which examines the influence of the program on its graduates and their respective work environments (Albright and Cobb 1988b).

In-service training. Professional development activities which occur simultaneously as an individual performs while employed in his/her professional position.

Key informant sampling. The process of selecting a population by accessing those persons with the most information about certain conditions or situations (Brinkerhoff and others 1983).

Longitudinal study. A study in which data are collected at different points in time in order to study

changes or explore time-ordered associations (Asche and O'Reilly 1979).

Matrix sampling. The process of selecting a sample of respondents from a defined population and items from an instrument (Brinkerhoff and others 1983).

One-shot study. A type of follow-up in which a single collection of data is planned. This type of follow-up is especially effective for evaluating a new program or procedure (Asche and O'Reilly 1979).

Preservice training. Professional development activities which occur as preparation to an individual's employment in the field.

Purposive sampling. The process of selecting a population by accessing those persons with the most information about particular conditions or situations. Examples of purposive sampling include expert judges sampling, key informant sampling, and grapevine sampling (Brinkerhoff and others 1983).

Quota sampling. The process of selecting a population sample from certain population categories in proportion to the relative size of the category (Brinkerhoff and others 1983).

Recurring study. A type of follow-up system in which the same basic information is collected from a different group of individuals at regular intervals. It is most commonly used to supply information necessary on mandated reporting by state and federal agencies (Asche and O'Reilly 1979).

Regional Occupational Program (ROP). A vocational education delivery system that serves high school students and adults regardless of the geographic location of their residence or high school district, and commonly uses instructional methodology such as the community classroom and cooperative education to provide students with current, relevant vocational instruction.

Sampling. The process of selecting a proportion of a population which is representative of that population.

Straight random sampling. The process of selecting individuals of a population in such a way that each has an equal chance of being selected and each choice is independent of any other choice (Best and Kahn 1986).

Stratification. The process of subdividing a population into small homogeneous groups to get a more accurate representation (Best and Kahn 1986).

Systematic sampling. The process of selecting a population by selecting the nth term from a finite list (Best and Kahn 1986).

Chapter 2

Review of Related Literature

A review of the literature on impact evaluation processes and methodology initially included a broad survey of exemplary follow-up studies in vocational education. While follow-up studies of vocational program trainess are largely concerned with placement, the relative abundance of vocational education follow-ups (Asche and O'Reilly 1979) provided numerous examples from which a generalizable pattern of procedural steps could be identified. In an effort to focus the literary review on the methodology used in impact evaluations of teacher training programs, an emphasis was placed on field work research methods, including case studies and theoretical papers on qualitative and quantitative methods of data collection and analysis.

A review of vocational student and employee follow-up studies utilized findings of the comprehensive research efforts of Asche and Reilly (1979), Richardson and Nieminen (1985), and Wentling (1980). These authors provided an overview of the procedures used in follow-up studies of students completing vocational education programs. A series of similar steps was delineated in each

study, with minor differences in the level of detail at one stage or another.

In Program Evaluation, Brinkerhoff and others (1983) outlined procedures for conducting a follow-up evaluation of teacher education programs; these procedures were consistent with those identified in the vocational education program student follow-ups. The following review of related literature is organized around a collective presentation of these procedural steps, with the exception of Reporting the Data, which has been omitted. Material relating specifically to impact evaluations of teacher training programs was systematically targeted and emphasized in the task descriptions.

1. Focus the Evaluation/Determine Goals of the Study

The establishment of overall goals and primary objectives is the foundation from which the follow-up design is to emerge. As Jick (1979) indicated, "If the research is not clearly focused theoretically or conceptually, all the methods in the world will not produce a satisfactory outcome" (p. 146). Three broad follow-up goals are accountability, program planning, and program improvement. Asche and O'Reilly (1979) emphasized the importance of identifying potential users of the data as a means of identifying system goals. Brinkerhoff and others

(1983) reiterated the importance of audience consideration in evaluation design, noting that:

> It is important to identify these 'stakeholders' in the evaluation as they will provide the basis for some of the evaluation questions generated later. Evaluators cannot meet relevant needs unless they know who will use the evaluation and how. (p. 20)

The authors stated their perception of program evaluation as functional:

> Evaluations should serve the development, implementation, and recycling needs of training programs. It should be used for one or more purposes; to improve a particular program (formative); for accountability or selection (summative); to motivate, increase and gain support of staff and others (psychological). (p. xx)

Impact evaluation focuses on effects and outcomes of a training program on the trainees and their respective work environments. Albright and Cobb (1988) described the impact evaluation as the last of three phases in a formative evaluation, following Phase I, Planning Evaluation; and Phase II, Process Evaluation (p. 5). The authors cited two primary objectives of the impact evaluation of a training program:

(1.) To determine the extent to which skills taught in the training program are being used by the graduate in the workplace, and

(2.) to determine how the application of these skills is affecting the work environment (p. 20).

2. Develop Timelines

Asche and O'Reilly (1979b) recommended the establishment of a general system time frame at the onset of the follow-up process. Timing of data collection would be considered at this point as well as reporting deadlines. Information on time frames gathered early in the process would be useful later on, especially when making decisions about methodology and instrumentation.

3. Make Major Operational Decisions

Based on their research, Asche and O'Reilly (1979b) included a premliminary step to the design stage of the process. The authors stressed the importance of initially making major operational decisions such as how to process the data, whether the follow-up should be conducted in-house or by a contractor, and whether data should be collected continuously or at regualr intervals (p.38). Along these lines Brinkerhoff and others (1983) recommended considering the "evaluation setting" prior to the design phase. Evaluation setting elements might include organizational politics, economics, or social patterns. The authors offered specific questions regarding these various influences and their possible impact on the evaluation setting; addressing these questions early on might aid in interpreting data later (p. 23).

4. Define the Follow-up Population

In part, the task of defining the population will have been accomplished by defining the goals and objectives of the follow-up. It is important to note that in addition to determining relative characteristics of the population, this step also provides information about the nature of the data to be collected. For example, by determining the size of the population and the geographic locations of the individual in the population, preliminary decisions about whether to use a survey, personal interview, or telephone interview can be made (Asche and O'Reilly 1979).

Ideally, all participants of a training program should be included in a follow-up study. When this is not feasible, sampling and stratification techniques are employed to aid in the selection of a representative group (Best and Kahn 1986). On the subject of sampling, Mintzberg (1979) was skeptical of the "significance" of the statistical significance of large samples and posed some interesting questions:

> What, for example, is wrong with samples of one? Why should the researcher have to apologize for them? Should Piaget apologize for studying his own children; a physicist for splitting only one atom? A doctoral student I know was not allowed to observe managers because of the "problem" of sample size. He was required to measure what managers did through questionnaires, despite ample evidence in literature that managers are poor estimators of their own time allocation (e.g. Burns, 1954; Horne and Lupton, 1965; Harper 1968). Was it better to have less valid data that was statistically significant? (p. 108)

5. Determine Data Needs

The system goals and objectives should provide a framework for determining data needs. A systematic determination of data needs is accomplished by developing major data categories from program objectives. These data categories can be further broken into related data elements and finally data items, or questions (Asche and O'Reilly 1979).

Brinkerhoff and others (1983) identified these evaluation questions as "the building blocks for the evaluation" (p. 27). The authors recommended that evaluation questions initially be generated from the overall purpose of the study, but should be refined, revised, and reorganized according to input gathered from audiences through conversations, interviews, surveys, and group meetings, if time and resources permit. They also described six methods for defining evaluation questions including (p. 28):

(1.) Analysis of the Object: Questions are related to critical junctures, areas of staff concern, major milestones, key objectives, etc.;

(2.) Use of Theoretical Framework: Questions are derived from model's key points;

(3.) External Expertise and Experience: Questions identified by experts in the field or literature review;

(4.) Interaction with Key Audiences: Questions identified by audience as most important;

(5.) Definition of the Purpose for Evaluation: Questions based on a logical analysis of the purpose for the evaluation; and,

(6.) "Bonus" Questions: Additional questions asked for secondary purpose--public relations, research, marketing, etc.

The data needs of the impact evaluation can be theoretically organized around a combination of these methods, but should be also be based on a preliminary design for analyzing the data.

6. Collect and Store Participant Data

Mention of a sub-category of data needs is made in Richardson and Nieminen's (1985) report, where they refer to the collection of identifying information about respondents. Addresses, phone numbers, program enrollment data, and descriptive data are all items to be included in the system records. Although identifying information can usually be obtained from records, it may be included in the instrument to provide a cross-check.

7. Develop a Follow-up Methodology

The methodology of the study refers to the procedures and methods employed in actual data collection. The function of the methodology is to address the evaluation

questions which direct the entire study. Areas to consider when designing the methodology include: the nature of data to collected, the assessment and selection of data collection procedures, sampling methods, instrumentation development and evaluation, validity and reliability issues, and finally, efficiency of the design (Brinkerhoff and others 1983).

Decisions about methodology are based upon the evaluation questions posed, time and financial resources, and anticipated credibility and usefulness in terms of analysis, interpretation, and reporting (Asche and O'Reilly 1979; Brinkerhoff and others 1983; Richardson and Nieminen 1985). In light of the complex interplay of variables involved in designing the methodology, this section is subdivided to accommodate the various factors, issues, and perspectives presented in the research on impact evaluation methodology.

Study Type

According to Asche and O'Reilly (1979), there are four basic types of follow-up studies: one-shot, recurring, cross-sectional, and longitudinal. The one-shot is best used for collecting data about a specific program and with a limited population. Data are collected at one time only and study objectives are very specific. The limited nature of this type of study can reduce costs; however, costs may

be incurred at the planning and design phase in an effort to ensure a high quality of data.

For most state and federally mandated follow-ups, a recurring study is used. This type of study allows data to be collected from the same population at regular intervals. Asche and O'Reilly (1979) noted three advantages to using recurring studies: they collect data that can be used to describe trends and changes; they allow for the establishment of a rapport with the participants which will enhance a high rate of return; and they involve repetition which provides an opportunity for improving the data collection instrument with experience in its use (p. 60).

In a cross-sectional study, an effort is made to concurrently collect data from different groups of a population. This type of study yields information that may be used to describe contrasts or trends. The authors (Asche and O'Reilly) cautioned, however:

> The use of cross-sectional data to explore time-ordered relationships must be done with caution, especially if respondents are asked to recall previous incidents. Also, it must be assumed that the conditions affecting individuals have remained constant for all categories of individuals in the follow-up. (p. 61)

A longitudinal study is the type most used to investigate time-ordered associations. A panel longitudinal study is one in which the same individuals are followed-up at different points in time--perhaps one, three, and five years after they have left a program.

Descriptions of trends are most accurate when based on data gathered through longitudinal studies, since the same group is followed over time. However, because of the cost, time, and effort involved, longitudinal follow-up studies are not common in the fields of vocational education and special education (Albright and Markel 1982).

Sampling

Another major facet of the follow-up methodology is the determination of the population size. The study goals and objectives, system costs, and data quality are factors to be considered when making this decision. When a population is small, a "census," of follow-up that attempts to collect data from all members of a population, is desirable. Most existing follow-up studies in vocational education, use a census design (Asche and O'Reilly 1979).

When time and/or money do not allow for a census design; sampling is used. Sampling is the selection of a portion of a whole group to represent the whole group. (Brinkerhoff and others 1983, p. 89). The intent is to use data generated from the sample to generalize to the larger population. Brinkerhoff and others (1983) noted that sampling can be used in relation to people or things. He explained that, for example, "If your purpose is to make diagnostic decisions about trainees, you have to evaluate a sampling of competencies from each trainee" (p. 89).

Two general options in sampling methods include random and purposive (Brinkerhoff and others 1983, p.89). When the major concern is that the sample is a true representation of the total population, random methods are used to eliminate bias. The authors listed four random sampling methods: straight random sampling, quota sampling; stratified sampling, and matrix sampling (pp. 90-91). When a particular perspective or group representation is desired, purposive methods are used. Four purposive sampling methods were described as well: key informant, expert judges, extreme groups, and grapevine sampling (pp. 90-91). Brinkerhoff and others (1983) illustrated a case for the selection of purposive sampling in a follow-up of participants of an in-service training program:

> For example, consider the typical case of sending a follow-up survey to graduates of a program or participants in an in-service. Usually, a random sample of attendees is drawn to receive the survey. But, this method assumes that you wish to make an inference (an estimate) about <u>all</u> attendees. Very often, however, the purpose is to make some judgments about the program (curriculum, workshop, etc.) itself, not about the typical or average attendee. Thus, it might make more sense to draw a sample of those whose judgments and opinion could mean the most or be most useful. This might be high-scoring graduates (or poor ones), or specially qualified attendees, persons with a lot of experience, etc. (p. 92)

<u>Data Collection Methods</u>

Traditionally, data collection methods for follow-up studies include the personal interview, telephone

interview, and the mail survey, or questionnaire (Asche and O'Reilly 1979). Other methods include: tests, ratings, and frequencies; naturalistic observations; ethnographic descriptions; case studies; and literature review (Brinkerhoff and others 1983). Data collection procedures were also categorized by Brinkerhoff and others (1983) as being either quantitative or qualitative in nature:

> Quantitative--Using these procedures results in numerical data. We call such data "convergent" in that phenomena (opinions, performance, behaviors) are "reduce" and put into categoriees that can be assigned a number. Then these numbers can be summarized and otherwise manipulated.
>
> Qualitative--These procedures produce narrative information. (While narrative information can be converted into numerical categories, that would usually serve an antiethical purpose.) Qualitative procedures tend to capture broader and more open-ended perspectives about complex phenomena. (pp. 84-85)

Most often, a variety of procedures is used to answer questions in a follow-up study, and in fact, the literature suggested that a complementary mix of quantitative and qualitative methods was useful in collecting productive data in the field (Miles 1979, Van Maanen 1979). On the benefits of multiple data collection methods, Brinkerhoff and others (1983) stated:

> this is especially true when whatever you are measuring (e.g., program, in-services, or trainees) is complex and made up of a number of variables, as one measure rarely captures the richness and variety of such evaluation "objects." (p. 135)

King and others (1987) recommended that prior to organizing details of an evaluation plan, the evaluator should decide

on which overall orientation is most appropriate in providing information that will be most useful to the designated audience and most feasible in terms of human and material resources. The approach may be qualitative, quantitative, or a combination of the two.

Quantitative Procedures

Traditionally, educational program evaluation has utilized the scientific methods borrowed from biology and physics (King and others 1987). The authors explained that quantitative methods are philosphically based on the view that, "through repeated studies, science comes even closer to the truth; describing with increasing accuracy an objective reality that exists apart from any individual" (p. 21). Using such an approach, the evaluator then proceeds to investigate the questions typically posed by a set of hypotheses.

The mail survey or questionnaire is the most widely used form of follow-up data gathering devices in vocational education (Richardson and Nieminen 1985). The authors maintained that these self-report measures have the potential for providing the most reliable data, are convenient, save time and money, and require fewer personnel than the personal interview.

King and others (1987) listed other advantages to questionnaires: they can be answered anonymously; they

allow the respondent time to think before responding; they can be administered to many people at various sites at the same time; they can be mailed; and they impose uniformity on the information collected by asking all the respondents the same questions (p. 47). On the other hand, although more respondents can be reached regardless of geographic location, the rate of return is not as high as with the personal interview, "since persuading people to complete and return questionnaires is sometimes difficult" (King and others 1987, p. 47). Furthermore, questionnaires do not provide the flexibility of interviews and the written response may be a more difficult mode of expression for some people (King and others 1987, p. 47).

There is an abundance of information in the literature on designing an effective questionnaire (Asche and O'Reilly 1979; King and others 1987; Wentling 1980). All provided criteria and guidelines for designing questionnaires that are reliable, provide valid data, and have high return rates.

Wentling (1980) noted two formats used in the questionnaire, either selected or constructed. A closed-reponse or selected questionnaire lends itself to easy scoring and reporting; whereas an open-ended or constucted questionnaire has the potential for richer feedback, but is time-consuming to score and analyze. King and others (1987) recommended using a principally closed-response

format, with at least one open-ended question on every questionnaire. They offered this rationale: "Giving people the opportunity to write down their concerns alerts them to the importance of their perspective and provides the evalutation helpful information for guiding program activities" (p. 77).

In addition to surveys, knowledge tests are quantitative measures that can be used to objectively measure participants' knowledge and cognitive skills. Performance tests can be used to measure job-related and specific task behaviors. Observations can be quantified using behavior observation check-lists and interaction analysis. Judgmental ratings, inventory checklists, q-sorts, and delphi techniques are other examples of quantitative procedures (Brinkerhoff and others 1987).

Qualitative Procedures

Qualitative methodology has been described as an "emergent" strategy (Van Maanen 1979) with "patterns realized despite the absence of intentions" (p. 105). In contrast to traditional quantitative methods, "qualitative methods are based on the belief that reality does not exist apart from someone's perception of it, and the evaluator at best describes the details he or she observes, allowing language and events selected by participants to tell their own story" (King and others 1987, p. 22). This approach

borrows techniques used in anthropology and sociology and is variously described as "naturalistic," "exploratory," "holistic," "ethnographic," and "direct" research. The qualitatively-oriented evaluator typically uses interviews, on-site observations, and participant-observations, for close-up descriptions and is not limited to preconceived notions about the study (Light 1979; Mintzberg 1979).

Proponents of qualitative methodology cited many attractive qualities of the approach for evaluative studies. Miles (1979) described qualitative data as being "rich, full, earthy, holistic, and real" (p. 117), and as having a quality of "undeniability." Other advantages of qualitative data were mentioned in the literature, including their high face validity, the fact that their collection requires minimal front-end instrumentation, and their tendancy to preserve chronological flow. King and others (1987) provided other reasons for utilizing a qualitaitve approach:

> Unhampered by preconceptions and prescriptions, qualitative inquirers may set their sights on catching the true flavor of a program, discovering the unique set of elements that make it work and conveying them to the evaluators' audience.
>
> . . . A qualitative approach may be necessary if there is no written plan for the program you are evaluating...Even if there is a plan, it may be vague or, from your perspective, unrealistic to implement. . . . You may discover that the program has varied so much from site to site that common features are not apparent at first. (p. 22)

The interview, an instrument most often used in qualitative research, is best suited to studies involving a relatively small population or in studies in which the attitudes, perceptions, and personal feelings of participants are being sought (Wentling 1980). Interviews can use flexible data gathering techniques or rely on a structured schedule. Interviews may range from informal personal conversations with program personnel to highly quantitative formats using a closed-response interview schedule (Brinkerhoff and others 1983; King and others 1987, Wentling 1980).

In a structured interview, the role of the interviewer is limited; his or her main function is to read specific questions in a precise order and to record responses. In an unstructured interview, the interviewer presents a few broad areas of concern, and stimulates the respondent to expound on these topics. The interviewer is not bound to a predetermined format, but instead may adapt a set of interview guidelines when necessary to explore areas of implementation that were either unplanned or evolved differently from the plan (Brinkerhoff and others 1983; King, 1987; Wentling 1980).

An unstructured interview requires considerable interviewing skill. Since there is no specific sequence in a flexible interview, the interview flows much like a conversation and the respondent can easily go off on

tangents. The skilled interviewer will prepare questions designed to refocus the interview and to encourage responses when a respondent is hesitant. It is possible to obtain accurate and indepth information in an unstructured interview since the interviewer can probe the respondent for underlying reasons for a response when necessary. The literature on interviewing techniques provided guidelines and examples on the use of probes in an unstructured interview. Probes were described as short comments made by the interviewer to stimulate the respondent to remember more, be more specific, supply examples, or to guide the interview to a more relevant topic. Several examples of frequently used probes were cited: "Can you tell me more about that?"; "Why do you think that happened?"; and, "I see. Is there anything else?" (King and others 1987 p. 81). The authors recommended that probes be inserted whenever a respondent makes an emphatic statement in either an expected or unexpected direction. The interviewer can encourage the respondent to reconsider his/her statement simply by rephrasing or repeating the strong response. In an unstructured interview, the flexibility of the interviewer can allow for unanticipated, but significant data. Piore (1979) illustrated this situation as he experienced it in his research on civil rights and anti-poverty groups:

> At first, I develped an elaborate list of questions for this "preliminary" part of the interview, but I quickly found that the questions had very little to do with the success or failure of the interview. . . . The interviewees used my questions as an excuse for telling their stories. Since I thought of my initial interview as a means of developing a rapport, this did not bother me at first. Indeed, I was glad to be relieved of the burden of keeping the conversation going, and I began to look for ways to get the respondent to do his or her thing. Later, I became interested in using the same interview format to obtain the answers to a specific list of questions, but I was unable to change the interview process. Either I let the repondent tell his or her story, using my questions as an excuse, or else I forced him or her to treat the questions seriously and to give me a codable response to each item. If I took the latter approach, the respondents soon lost interest in the project and began to concentrate on getting through the questionnaire and on to their next appointment. In this process, they often provided misinformation in order to avoid an anticipated follow-up question. (p. 72)

Eventually, the author discovered that the stories of the respondents "revealed that the processes of technological change and labor allocation, indeed the basic process of business management, were totally different from the ways in which the original project had been conceived" (p. 73).

Van Maanen (1979) also stressed the importance of supporting systematic data with anecdotal data, explaining that "while systematic data create the foundation for our theories, it is the anecdotal data that enable us to do the building" (p. 113).

The importance of establishing rapport with the respondent was emphasized in the literature. Wentling (1980) maintained that a good interviewer must be an

understanding, nonjudgmental person, must be able to put the respondent at ease and get him/her interested in the interview and provided some basic principles for establishing and maintaining good interviewing relations. King and others (1987) explained that efforts to alleviate the respondent's initial apprehensions about the interview could be made by stating the purpose of the interview, exactly what would be required of the respondent and stating whether or not the information gathered could be kept confidential. An explanation should be made about confidentiality and how information from the respondent would affect the program.

Field-testing of the interview can be accomplished simply by rehearsing the interview with a colleague, spouse, or anyone who could give feedback on how he/she interpreted the questions. By using a dry-run, the interviewer and interviewee can discuss possible misunderstandings, threatening questions, and logical inconsistencies (Brinkerhoff and others 1983). Several authors recommended advising the tester to be as uncooperative as possible to help prepare the interviewer for unanticipated answers or hostility (Brinkerhoff and others 1983; King and others 1987).

Interview data may be audiotaped and transcribed later. When this is possible, the tape enables the data analyzer to summarize using direct quotes. The problem

with taping interviews is that transcription time, in the case of dictated write-ups, could take as long or longer than the original contact (p. 83). King and others (1987) recommended recording data on summary sheets which could later be reduced into a narrative report, and added, that when possible, these summaries should be reviewed by the respondent to avoid misunderstandings about responses. Miles (1979) noted, however, that notes "can't be reduced without losing many direct quotes, earthy data, etc., which make ethnographic data so useful . . ." (p. 121).

The telephone interview shares many of the advantages of the personal interview in that it provides personal contact and therefore a high rate of response. It is commonly used as a secondary data collection method, following a personal interview or a questionnaire (Asche and O'Reilly 1979). Like a personal interview, the telephone interview can be costly. The telephone interviewer must be trained in interviewing skills as well. An interview script may be developed and used to standardize the process and increase the reliability of the data. Frey (1983) noted the increasing acceptance among researchers of the telephone interview, offering numerous factors which have contributed to the trend including the high cost and declining response rates of the face-to-face interview, improved telephone technology, and increased accessability to any population.

The literature specified various human behaviors associated with telephone usage, including the loss of a feeling of privacy of telephone interviews versus questionnaires (Asche and O'Reilly 1979) and reluctance to be totally consumed by a telephone conversation as possible explanations for less honesty, more evasiveness, or refusal to be interviewed over the telephone (Frey, 1983).

On-site observation is a data collection method that is noted in the literature for the credibility and richness of the data it yields (Light 1979; Piore 1979). In ethnographic studies, which usually entail at least a year devoted to the task, observation is often the primary method of data gathering. Sanday (1979) explained, "Fieldworkers learn to use themselves as the principals and most reliable instruments of observation, selection, and interpretation" (p. 20). Because observation places the evaluator so close to the training setting; he or she is able to gain a sense of context and an intuitive feeling for a program's implementation. On observation, King and others (1987) stated:

> Some evaluators feel, in fact, that observation is the only method for capturing and aptly describing a program's complexity because formal observations take a long look at representative parts of the program and record accurately what is seen. (p. 85)

The distinction made by the authors regarding formal versus. informal observation techniques is worthy of

consideration. While King and others (1987) acknowledged both highly structured, quantifiable observations as well as unstructured, qualitative observations, they stressed the need for a systematic approach to be sure the method is rigorous enough to be included as evaluative data. The literature provided numerous examples of structured observation models including the Stallings and Kaskowitz Model Observation System developed at Stanford Research Institute (King and others 1987).

While quantitative observations involve a predetermined plan for what, when, and how observations will be made, the qualitative strategy is to allow critical issues to emerge through the course of the observations. In naturalistic studies, on-going field data are collected through a variety of methods in addition to qualitative observations, in an effort to enhance confidence in the emerging theory. Light (1979) commented on the merits of a qualitative approach to observation in evaluative studies: "To find out how a training program really works and to get beneath stated objectives and surface behavior, one must use observation" (p. 57). Light also expressed his view on the limitations of an exclusively quantified approach:

> Observation allows the vital flexibility to discover. Scales, instruments, and questionnaires require that one presumes prior knowledge of all the key forces that shape trainees and all the key

> dimensions on which they change. Worse, they do not allow one to measure or discover anything else. p. 60)

Several others described direct observation procedures as being a vital part of holistic analysis in which hypotheses emerge from the data and are continually tested, retested, and altered rather that having been previously set and limited by preconceived notions (Jick 1979; Mintzberg 1979; Van Maanen 1979).

Instrumentation is only one component of the methodological design. The efficiency of the design ultimately depends on the interacting effects of the information source, the information collection procedures, the evaluation questions, and the particular setting (Brinkerhoff and others 1983). While the authors stressed flexibility in terms of overall design, they supplied a list of considerations for selecting the data collection procedures, which include: (a) availability of data from other sources; (b) Training needs of data collectors; (c) pilot testing of instruments; (d) interruption potential; (e) respondent reactivity to data collection; (f) protocol needs; (g) sampling bias; (h) reliability; and, (i) validity.

Triangulation

The literature on evaluation study methods, included various descriptions, case studies, and theoretical papers

on direct research methods variously identified as convergent methods, multitrait/multimethod, convergent validation, or triangulation (Jick 1979; McClintock and others 1979). Evaluation studies were illustrated which used combinations of qualitative and quantitative methods in a complementary fashion, using convergent data for analysis. Jick (1979) presented Denzin's general definition of triangulation, "Triangulation is the combination of methodologies in the study of the same phenomena," but explained that the term originated from navigational and military strategies which used multiple reference points to located an object's position (pp. 135-136). The rationale for such a strategy is that the convergence of two or more methods can enhance the validity of the data and ensure that the data gathered is a result of a behavior or trait and not a method (Jick 1979).

Jick (1979) made the distinction between two types of triangulation: between (or across) methods, and within methods triangulation. The across method variation involves the use of multiple methods to examine the same dimension of a research problem (p. 136). An example of "across methods" triangulation might entail interviews, observations, and the evaluation of performance records to gather data about one research question. In this situation, the data collection method varies, but the object of the research remains the same. Using across

method triangulation, multiple and independent measures can be used as a cross validation of data.

When multiple techniques within a given method are used to collect and interpret data, the method is described as "within methods" triangulation. If, for example, an evaluator used multiple comparison groups for participant observation, or interviews several subgroups to gain various perspectives about a particular research question, the cross-check enhances reliability of the data (Van Maanen 1979).

Triangulation designs can range from very simple, primitive devices such as scaling, to more sophistocated strategies involving complex combinations of qualitative and quantitative data collection. Jick (1979) warned of misusing triangulation, specifically the parenthetical, patronizing use of field observations to strengthen statistical results," and of the limitations of such misuse, explaining that, "five different variations of the same method don't generate five distinct varieties of triangulation data" (p. 137).

8. Analyze Data

Once the data have been collected, the process of analysis begins. However, major decisions about analysis should be made early in the planning stages of the data collection design, (Asche and O'Reilly, 1979; Brinkerhoff

and others 1983) primarily to determine whether data analysis will be quantitative or qualitative in nature. The overall orientation of data analysis is closely tied to instru-mentation and the purpose of the study. For instance, Brinkerhoff and others (1983) noted that qualitative analysis is well-suited to deriving meaning from rich, descriptive materials like interview summaries and site visit reports and for special training program evaluations.

The literature reviewed included various assessments of the state of research on qualitative data analysis. Miles (1979) stated that according to Sieber's research "most texts largely ignored the problem of analysis," (p. 125) and felt that little was known about making sense of large amounts of qualitative data. On the other hand, more recent works cited numerous references that provide a conceptual framework for conducting qualitative analyses and examples of cases studies (Brinkerhoff and others 1983; King and others 1987).

These authors have suggested a process of intertwining analysis and data collection, in which questions emerge from a preliminary analysis and several cycles of analysis follow. Often, the process involves additional data collection and re-assessment of evaluation questions. Both sources stressed, however, that a systematic process be established at the outset and that each step be documented

to assure ease of replication.

The general sequence of analysis procedures was presented in various sources as (a) data "clean-up" or verification; (b) data organization, or coding; (c) identification of common themes, trends, and relationships; (d) provisional testing of hypotheses; and, (e) interpretation, which is a comparison of descriptive data to a referant (Brinkerhoff and others 1983; King and others 1987; Miles 1979).

The authors provided similar guidelines for effective analysis and warned not to oversimplify or to assume unrealistic uniformity in analysis, but to account for differential effects and conditions; use multiple techniques based on different assumptions; and use direct, practical, and affordable methods of analysis.

Specifically, Brinkerhoff and others (1983) described three methods for analyzing narrative data: the social phenomena approach, content analysis, and records analysis. King and others (1987) presented several methods for summarizing open-ended response instruments and narrative reports by categorizing. Miles illustrated the use of formative evaluation data to facilitate analysis; by using site summaries, site updates, and site analyses. His analysis on Social Architecture in Education became increasingly productive through on-going review, validation, and interpretation by project staff and

participant feedback. His study also used multi-site comparisons to gain perspective on idiosyncratic aspects of each site and to correct conceptual bias.

Van Maanen (1979) presented Sieber's list of "rules of thumb" for qualitative analysis that were consistant with several other sources on the subject of validity and reliability of the data. In general, the authors recommended using a holistic approach to data interpretation, by focusing on the interrelationships of multiple and often conflicting evidence. When considering the validity of any particular generalization, the analyzer should look for negative evidence and make predictions such as, "if x is true, what else would be true?" Miles outlined a similar set of processes for validating generalizations also, but posed some interesting questions about reliability issues as they relate to qualitative analysis:

> the quantitative view of reliability (inter-observer, inter-respondent, inter-instrument, or intra-respondent over time) is in many respects inapplicable in qualitative data research. . . certain kinds of reliability must be intentionally violated in order to gain a depth of understanding about the situation (i.e., the obvserver's behavior must change from subject to subject, unique questions must be asked of different subjects. . . . (p. 126)

Miles (1979) cited Guba's work which also stressed that "perhaps qualitative research should be seen as 'auditable', 'confirmable', and 'creditable' rather than as 'reliable' and 'valid' in the usual sense" (p. 127).

Chapter 3

Methods and Procedures

Introduction

A sketch of the design for this impact evaluation study initially appeared in the proposal of a federally funded project conducted through California State University, Long Beach from June 1986 to May 1989 (Albright and Cobb 1985). The follow-up study was planned as part of the third year activities of this national project.

During the first project year, a series of personnel training modules was developed based on a three-phased conceptualization of assessment; answering assessment questions about students prior to, during, and after their enrollment in a vocational program. The modules were used in a variety of in-service and preservice training settings during the second project year. In addition to training activities, the second project year included the collection of formative evaluation data from trainers and trainees. During the third project year, product publication and dissemination through a national convention and several regional workshops occurred. The final phase of the project is the present follow-up study, the impact evaluation.

In the original proposal, the design of the follow-up indicated that on-site interviews at the three school districts that completed the in-service program would be conducted and a representative sample of trainees from the six preservice program sites would be interviewed by telephone. The general purpose of the follow-up as stated, was "to gather data on the impacts of training on participants and their work environments" (p. 21).

While the general features and objectives of the follow-up study have essentially remained the same, further development of the project, analysis of formative evaluation data, and input from project staff members resulted in refinements to the preliminary follow-up design.

The following description of methods and procedures used in the impact evaluation study is organized according to the major procedural steps as they were outlined in the previous chapter, Review of the Related Literature. One step in particular, Methodology, is subdivided to accommodate three major methodological concerns: Sampling, Data collection design, and Instrumentation.

Goals of Study

The follow-up design is based on the information needs of several audiences and focuses on a few broad system goals. Primarily, the impact evaluation of the CBVA

training is targeted at providing product developers with feedback as to how the field-test training impacted participants in terms of knowledge, attitudes, and professional practices; and how that training impacted the total work environment. In addition, data gathered from the follow-up should provide insights to trainers in special education and vocational education personnel development programs who utilize the CBVA training materials developed through this project. Professionals directly involved in the use of curriculum-based assessment practices with special needs students in vocational programs, or administrative personnel responsible for the assessment policies and resource allocations at their schools, may also find the results of this study to be of assistance in local implementation efforts.

Timelines for Study

Since the follow-up study had been clearly identified as a third-year project activity of the larger study in the original grant proposal, the related activities were structured within the larger project timeframe. Initial planning activities for the follow-up study commenced in June 1988, immediately following a May 1988 project staff meeting in Washington, DC, during which a preliminary follow-up design outline was reviewed and suggestions were offered by the project director, site directors, and

trainers. Data collection, which was to occur during three major on-site visits, took place during October and November 1988. Data analysis occurred early in 1989, and the final report, including conclusions and recommendations, was completed in April 1989. A more detailed account of the study timelines is shown in Table 1.

Major Operational Decisions

Preliminary decisions about the follow-up design originated from four sources: the original project proposal, a review of the related literature, the May 1988 project staff meeting in Washington DC, and input from the project director and other project personnel. A review of the related literature provided a context from which informed decisions about the design of the impact evaluation could be made. By examining key characteristics of the study (e.g., audiences, major system goals, resources, evaluation settings, and data needs), an appropriate methodological orientation was established. The study, being exploratory in nature, would yield the most useful data through a primarily qualitative approach. This conclusion was supported by research and verified by discussions with the Project Director, Dr. Leonard Albright, and Project Consultant, Dr. Brian Cobb, Associate Professor of Occupational Education, Colorado State University.

Table 1. System Timelines

Months	Activity
June 1 - July 31	1. Identify Population 2. Determine Data Needs
August 1 - 31	3. Develop Instruments
September 1 - 10	4. Field-test instrument (and refine)
September 10 - 30	5. Orient the Respondents (Set up appointments)
October 1 - November 30	6. Collect Data (in-service visits, preservice phone interviews)
December 1 - January 31	7. Data Recording and Storing (word processing and coding)
February 1 - February 31	8. Data Analysis
March 1 - April 30	9. Use of Data (Report/Thesis)

Note. Total timeframe for follow-up study (Project Year III): June 1988 - April 1989

The preliminary design of this study indicated that instrumentation would consist primarily of on-site observations, in-depth interviews, and telephone interviews. The follow-up population originally included all in-service trainees, and a purposive sampling of preservice trainees from all training sites. Data from the evaluation would be analyzed across sites and within sites.

These basic features of the study were adapted as a result of continued analysis, input from project staff, and formative evaluation data collected through the training process. The resulting design includes a follow-up population of three in-service sites as planned, although the sites selected for on-site obvservation reflect an adjustment to the original plan. A fourth in-service site, the Denver Career Education Center, became involved in the field-test as a result of a "spin off" from the preservice work being done at the University of Northern Colorado. The Denver site was included in the present study in lieu of another in-service site, North Orange County ROP in California. This decision was made by the project director after reviewing the in-service program at the California site, the formative field test evaluation data from this site, and a recommendation received from one external reviewer of the field test data. Also, the original plan has been adapted by limiting the preservice population to trainers only. Further rationale for the selection of

specific training sites for the follow-up and to limit the preservice follow-up population is provided in a later section, Sampling.

The follow-up study "start-up" activities included an initial contact with field-test participants, thanking them for their participation in the project and informing them of their possible participation in the follow-up study. In addition, the May 1988 project staff meeting in Washington DC provided an opportunity for discussion among the project director, site directors, trainers, and the researcher about general follow-up activities, purposes, and project staff involvement in the follow-up.

Follow-up Population

The follow-up study population consisted of a sample of the personnel involved in the CBVA field-test training program. The total field-test training group included 72 vocational and special services personnel at four in-service sites: 12 at Chisago Lakes School System (MN), 12 at Monroe Comprehensive High School (GA), 13 at North Orange County Regional Occupational Program (CA), and 35 at the Denver Career Center, the "spin-off" site. Another 68 special education, vocational education, rehabilitation and guidance services professionals, who recieved pre-service training at six universities, were also included in the total training population. Those six universities were

Bemidji State University, the University of Georgia, California State University, Long Beach, George Washington University, University of Northern Colorado, and the University of Vermont.

Nine project staff members, including site directors and trainers, the project director and major project consultant were also included in the study population. A combined total of 149 field-test participants comprise the population from which the follow-up sample population was selected. Identifying information, such as names, addresses, phone numbers, professional titles, and place of work for each participant, was collected and entered into a database for use in follow-up activities.

The sampling techniques used to select the follow-up population are included in Sampling, a subsection of Developing a Methodology.

Data Needs

The data needs of the impact evaluation were based on three primary study goals, as identified in the original project proposal (Albright and Cobb, 1985):

1. To determine the extent to which trainees have implemented curriculum-based assessment and planning procedures in their programs;

2. To determine the impact of these procedures in expanding services for special needs students in these vocational programs; and

3. To determine trainee and trainer satisfaction with the training programs.

These broad goals were broken down into more specific objectives based on the conceptual framework of the CBVA system. Objectives related to the first system goal, (use of CBVA procedures) were formulated from key system features, as identified by Albright and others 1988).

The purpose of the study was to determine impacts in four areas: (1) implementation, (2) personnel roles, (3) system, and (4) training program.

1. Implementation

(a) the extent to which trainees implemented CBVA procedures at three critical phases: during selection and planning of a student's vocational program, during the student's enrollment in the program, and during the transition of the student from the program into productive employment or an alternative;

(b) the extent to which trainees used assessment activities which were directly integrated into the curriculum of the student's vocational program;

(c) the extent to which personnel were collaborating to conduct CBVA activities and utilizing the

results to ensure success for students in vocational programs; and

(d) the extent to which monitoring techniques being used were direct, criterion-referenced, and performance-based.

In addition, objectives focused on key personnel roles at each phase and in each assessment activity in an effort to gain insights as to how the training was implemented within the various personnel structures at each site. The study examined key system features from the perspectives of various personnel roles to determine:

2. Personnel Roles

(e) who was taking a lead role at each assessment phase, and for each assessment activity;

(f) who was taking a collaborative role;

(g) who was taking a minor role;

(h) who seemed to be the overall key implementer; and,

(i) what was the role of administration in implementation.

Objectives will also be directed at the system-wide impacts of training to address the second system goal and determine how CBVA procedures have expanded services for special needs students at these schools. The follow-up examined the total work environment to determine:

3. System

(j) what changes had occurred as a result of CBVA training in terms of local policy;

(k) what changes in organizational structure had occurred as a result of CBVA training; and,

(l) what staff changes had been made as a result of CBVA training.

Finally, objectives will focus on participant feelings and attitudes about the training program. Three major questions about trainer and trainee satisfaction with the training process included:

4. Training

(m) Did the trainers and trainees have a generally positive or negative feeling about the CBVA training experience?

(n) How did the training experience affect the professional development of the participants? and,

(o) How did the CBVA training affect the participant's ideas about assessment or educating special needs students?

Specific evaluation questions, based on these objectives, were formulated and used in the design of interview schedules for instructors, administrators, and trainers. The questions were structured to allow respondents to describe current practices, relate back to

practices used prior to training, and to draw on their own perception whether or not changes were due to CBVA training.

Methodology

The follow-up methodology evolved out of an analysis of several interacting elements of the study; (a) system goals, (b) time, personnel, and cost resources, (c) data needs; and (e) population size and geographic location were factors considered in the design of this impact evaluation. Consideration of these areas provided a basis upon which decisions were made about overall methodological orientation, study type, sampling techniques, instrumentation, and analysis.

The study design was broadly based on one guiding premise: the overall intent of the study was to gain insight into the effects of training and the implementation process in order to improve CBVA training efforts in the future. The formulation of the data collection strategy, therefore, began with an examination of the features of the training process.

The CBVA training was conducted at all sites as a field-test of system modules in draft form. The distinction between field-test training and actual training had important implications for the follow-up design. Field-test training means that while trainees received

instruction on CBVA concepts and practices, participated in group activities, and completed in-service and preservice assignments; they were simultaneously engaged in the evaluation of the field test version of the training system and providing feedback on the training experience.

Because of this dual focus, in some cases training "took a back seat" to evaluation activities. In general, field-test training denotes that both training efforts and training content are in an experimental phase. Furthermore, participants and schools were only committed to involvement in the field-test and follow-up activities; future implementation was not a stipulated requirement of participation. Therefore, precise expectations about trainee implementation seemed to be unrealistic and rigid follow-up data collection procedures designed to measure levels of use against system objectives were considered inappropriate for the present study.

Instead, the follow-up was aimed at uncovering incidental outcomes of training that contributed to the formative evaluation process. Participant feelings and attitudes, as well as knowledge and skills, were targeted in the impact evaluation; for information about changes in the thinking and practices of participants regarding CBVA concepts would be of prime importance to product developers and future trainers.

Another aspect of the training process which contributed to the follow-up design was the variety of training sites, backgrounds of participants, and structure of training involved in the field-test. Training sites ranged from a comprehensive high school to a regional occupational program for in-service training. Preservice participant groups ranged in professional backgrounds of rehabilitation services to special education. While in-service training involved all system modules, preservice training groups used only selected modules. Training strategies were experimental, with some trainers using structured, lecture and discussion formats and others using informal brainstorming techniques. For example, at one site, training occurred on Saturdays at the university, while at another site training was scheduled during the teacher free periods and lunch breaks.

In essence, training was not a standardized process; the variety of sites and flexibility of training approaches were deliberately built into the field-test design. The logical conclusion was that standardized instrumentation such as surveys, checklists, or rating scales would not be useful in this study, in that they would not allow for the depth of data required to capture the unique conditions at each site.

The follow-up study design was based on the assumption that a wide range of outcomes of training was possible and

data collection procedures needed to be flexible enough to accomodate that range. An in-depth look at participants in their work environments was necessary to provide meaningful impact evaluation data. An emergent strategy, in which patterns could develop instead of being preconceived, would allow for unanticipated outcomes to surface at each site.

Sampling

The follow-up study population sample was drawn from three sub-populations including, 72 in-service trainees, 68 preservice trainees, and 9 CBVA trainers. These groups represent four in-service training sites and six pre-service sites. While the original follow-up design included all in-service trainees at three sites (Monroe High School, Chisago Lakes High School, and North Orange County ROP), and a stratified sample of preservice trainees at each of the six universities involved in the field-test, this plan was altered in several ways.

First, when field-test data indicated that the CBVA training system should be focused on use in in-service contexts, it was decided upon the recommendation of the Project Director and from the May, Washington DC meeting, that follow-up activities should concentrate mainly on the in-service population. Secondly, formative evaluation data collected during the field-test indicated that CBVA training at North Orange County ROP had been

problemmatic due to the logistics involved in an ROP setting, a change in key personnel at the site early in the training, and an unstructured, loosely scheduled training arrangement. Upon collaboration with the Project Director, it was decided to reduce follow-up at this site to an interview with the Vocational Special Education Resource Teacher (VSERT) and the Administrator involved in the field-test training.

As a result of these decisions, the sample of in-service sites studied in this follow-up included Monroe High School (GA), Chisago Lakes High School (MN), and Denver Career Education Center as a third follow-up site, with limited follow-up activities at North Orange County ROP.

The particular circumstances surrounding the selection of Denver Career Center are significant in terms of the follow-up design. In-service training at Denver Career Center was an extension or "spin-off" of training activities at University of Northern Colorado (UNCO). In fact, neither UNCO nor Denver Career Education Center was originally identified as one of the project's field sites.

However, during the second project year, UNCO university faculty contacted the project director expressing a great deal of interest in the project and requesting that UNCO be included in the field-test program. Formative data from the other field-test training sites

indicated that the CBVA process would also be particularly suited to student assessment needs at Denver Career Center and that project staff at this site were enthusiastic about field-testing the CBVA process at the Center. It was evident that impact evaluation data obtained at this site would be useful in providing information for future implementation efforts and so UNCO and the Denver Career Center were identified as part of the follow-up study sample.

A second adaptation to the original plan involved the preservice follow-up sample. Instead of conducting interviews with a stratified sample of all preservice participants, the preservice follow-up sample was limited to site trainers and only at those preservice sites for which the locations would coincide with the in-service site visitation. Trainers at University of Georgia, Bemidji State University, California State University, Long Beach, and University of Colorado would be interviewed during the in-service site visits.

Within the in-service sites, purposive sampling was used to increase the efficiency of the data collection process during each site visit. Each in-service training program involved participants from five general personnel categories including, administrators, vocational/special education resource teachers, vocational instructors, special education teachers, and guidance counselors. The

CBVA training incorporated individual and group efforts on the part of these staff members and optimum use of the CBVA strategies depended to a great extent on the appropriate functions and collaborations of particular personnel at certain stages in the assessment process. For this reason, the follow-up design focused on the perspectives of respondents by personnel categories, and a purposive sampling of representatives from each category was used. Collecting data from instructors, administrators, counselors, and the vocational special education resource teachers (VSERT), at each site, would facilitate data analysis later, but would also serve as a cross-checking strategy for increasing validity of data received from the respondents.

A second purposive sampling technique was used to maximize the quality of data at the in-service sites. A systematic approach to readjusting the sample as data were accumulated was used to enhance the productivity of data collection. This strategy, known as "grapevine sampling" (Brinkerhoff and others 1983) involves a growing or changing sample. Interviewees supplied data that identified other participants as significant sources of follow-up data for future interviews. This sampling method was particularly useful in the present study since it was flexible enough for a wide range of training situations and efficient enough for a one-shot follow-up study. Since the

purpose of the study was to provide formative evaluation data to improve the CBVA training process in the future and not to make generalizations about the typical participant, this form of purposive sampling was preferable to random sampling techniques.

In addition, another form of purposive sampling, known as key informant sampling (Brinkerhoff and others 1983), was used throughout the data collection process. By using this sampling technique, members of the population were selected who had the most information about certain conditions or situations.

In summary, sampling techniques included various purposive methods in order to obtain rich data from a carefully selected population. By using the key informant sampling technique, training site coordinators were free to identify those who would participate in the follow-up based on their intimate knowledge of the work setting and training outcomes. The grapevine sampling technique was used on an on-going basis to continually adapt the follow-up sample as opportunities for quality data arose.

Data Collection Design

A narrative description of the general data collection design and rationale is followed by an example of a specific site evaluation plan in Table 2, Data Collection Design, Site 1. The table outlines a typical daily

Table 2. Data Collection Design--Site 1

Day	Personnel	Instrument	Objectives
1	Site Director	Unstructured interview (use trainer schedule)	Impact evaluation data: preservice and in-service
		Interview summary Key informant tally	Overview of site, directions re: key informants
	System Advocate	Unstructured interview (use VSERT schedule)	Impact evaluation data: in-service
		On-site observations tour of facilities	
		Interview summary Key informant tally Observation summary	Overview of site directions re: key informants, group interviews
	Selected groups as indicated by previous data	Unstructured group interview use appropriate schedules) Interview summary Key informant tally	Impact evaluation data: in-service
2	System Advocate	Informal interview based on previous data	Review summaries for verification
			Target individuals for interviews
	Key individuals as indicated by previous data	Unstructured in-depth interview (use appropriate schedule)	Specific case study evaluation data

Note. Site: Chisago Lakes High School, Minnesota; Days on Site: 2.

itinerary at a follow-up site visitation and describes related instrumentation, personnel, and objectives.

This qualitative approach to impact evaluation relied heavily on the purposive sampling techniques described in the preceding Sampling section. In addition to being used to select the follow-up sample population, key informant sampling techniques were used to focus and re-focus on key interview topics as part of an overall strategy designed to follow data patterns as they emerged. The flexibility of this approach allowed for unanticipated data sources as well as unanticipated training outcomes to surface. The emphasis on emergent methodology was in keeping with the exploratory nature of this study.

Although the qualitative orientation of the design was intentionally flexible, it was based on a structured set of data needs and cross-checking procedures. For example, it was clear that the site directors (trainers) and system advocates (VSERTs) were two critical data sources. The trainers had been identified as the pre-service follow-up sample; they would provide data about pre-service training outcomes and assist in directing the in-service follow-up activities by acting as key informants. The system advocates were targeted as the coordinators within each school system during training; their role in system implementation was pivotal. The system advocates would further direct the follow-up interview schedule by

organizing appropriate group and individual interviews, interview settings, and time allocations based on their own expert understanding of the group relations and work setting.

The primary data collection procedure used was the unstructured interview. Separate interview schedules, designed to collect data from each of the five personnel categories, were readily available to guide interviews by focusing on these various perspectives and on the defined system objectives. Data from these interviews were recorded and later summarized on Interview Summary Sheets. In addition, an instrument to record references to significant data sources, the Key Informant Tally, was used to substantiate the emergent theory and enhance analysis efforts later. Informal observations about the facilities, social interactions, and the general atmosphere during the visitation were recorded on an Observation Summary Sheet, which was designed to collect contextual data.

The design also included various check points to ensure the validity and reliability of the data as it was collected. First, the use of multiple sources within the primary data collection instrument, the interview, was an example of within-methods triangulation as described by Jick (1979). By using both interviews and on-site observation, across-method triangulation was used to verify data. Convergence of data from multiple sources about one

dimension of the impact evaluation increased confidence in the validity of the data as an indication of system impact and not an artifact of the method used.

Secondly, by reviewing the interview summaries with the interviewees, misinterpretations and inaccuracies were discussed and corrected. Finally, a Site Analysis, occurred after the site visit with the Project Director, was used to review and evaluate the entire site visit. Data from this meeting was used to improve data collection during the upcoming site visit.

Examples of the various intruments used in the data collection process are supplied in the following appendixes: Interview Summary Sheet, Appendix A; Key Informant Tally, Appendix B; Observation Summary Sheet, Appendix C; and Site Analysis, Appendix D.

Instrumentation

The study utilized four separate interview schedules for interviews with (a) trainers; (b) system advocates; (c) vocational and special education teachers and guidance counselors; and (d) administrators. Group interviews combined interview schedules as needed. Interview questions provided a general framework for the interviews, but the actual interviews were, in some cases, centered around selected topics depending on the respondent's experience with CBVA training or implementation. The

interviews were open-ended by design, to allow the respondent to freely supply what he or she felt was relevant information. The interview schedules by personnel type are shown in Appendixes E to H.

Each set of site interviews was preceded by an overview of the CBVA process as it was presented during training, a brief summary of changes made to the training products as a result of the field-test, and a statement about the purpose of the follow-up and use of follow-up data. A general description of the follow-up data collection procedures was included to invite participants to contribute to the process by suggesting additional data sources (e.g., programs to observe, individuals to contact, example documents to review) throughout the visitation.

The interviews of trainers were designed to collect data about the nature of the trainers' involvement in the field-test, and their perception of impacts of training on the in-service and pre-service participants. In addition, the interview focused on impacts of training on the professional activities of the trainers, i.e. continued use of CBVA in university courses, workshops, and research efforts. Finally, the trainers acted as key informants, supplying information about in-service trainees which served to direct data collection procedures at the in-service sites. These interviews were conducted in person and by telephone, when necessary.

The interviews of the system advocates at each site were designed to obtain an overall perspective on the field-test training experience and outcomes related to individuals and the total work environment. The system advocate, whose role at the schools enabled him or her to work with vocational instructors, special education teachers, guidance counselors, and administrators, was naturally in the position to observe changes in the working relationships, practices, and attitudes of the trainees. The system advocate, as coordinator of the CBVA program, was targeted for data collection about system-wide changes. Also, the system advocate was viewed as a prime source of key informant data.

Interviews of administrators were designed to be brief and general in nature, as it was noted through formative evaluation data that administration at the three in-service sites was minimally involved in the field-test activities. They were interviewed, in some cases, to obtain key informant data, overall perceptions about impacts of training, and changes in policy, resource allocations, or staffing at the schools as a result of CBVA training.

The interviews of vocational instructors, special education teachers, and guidance counselors were arranged according to categories that paralled the CBVA system as it was presented in training, focusing questions on either placement, environmental assessment, planning, monitoring,

or transitional services. An opening discussion was used to recall for the trainee the structure of the CBVA process in terms of these categories. The interviews began with a broad question relating to the trainees overall feelings about the training program and continued with increasingly specific questions designed to encourage the respondent to describe training outcomes in detail. The patterning of the questioning was designed to first have the respondent describe current assessment practices, and then express their perception of the impact of training on these practices. Specific probes were used to assist trainees in their responses.

Data Analysis

In a qualitative study, data analysis is an on-going process. Analysis actually begins when the study questions are formulated since preliminary decisions about what kind of data will be collected are based on preconceptions about the outcomes of the study. Analysis continues through data collection; through the notetaking process some data are omitted, while other data are included and recorded in detail as the researcher decides what dimensions are more important and meaningful. Through the discretion of the researcher, this selective process shapes the data collection process and as analysis and data collection are interweaved, patterns emerge and theories are developed.

The qualitative data analysis is a creative, inductive endeavor guided by systematic checks for validity and repeated re-evaluation of theories (Miles and Hubermann 1984).

Data analysis for this study began, then, with the data collection design. Sampling techniques, study questions, and instrumentation were carefully selected on the basis of a variety of training site characteristics. The data collection design was, therefore, flexible enough to allow for unanticipated outcomes. However, a preliminary analysis of field-test data, and input from the Project Director, Project Consultant, and Site Trainers were utilized to focus data collection at each site on key questions, personnel, or instrumentation. In fact, prior to each visit the Project Director provided his perspective of the essential aspects of the particular training site and offered insights into interesting data sources or possibilities. Trainers were interviewed prior to the site visitation as well, not only for pre-service data collection but to aid in the pre-analysis process for the in-service data collection. Trainers gave their interpretation of the overall level of acceptance of the CBVA system, suggested probable productive data sources, and informed the researcher of what could reasonably be expected in terms of training outcomes.

The use of grapevine sampling was, in itself, an important part of the analysis process. The initial in-service site contact for the follow-up was with the site coordinator, who was advised to organize interview arrangements on the basis of his or her familiarity with the trainees, their work schedules and most importantly, their involvement with CBVA implementation since training. The actual interview schedule was adapted, in some cases, as data surfaced which indicated an adjustment would be more productive. Interviews were shortened, lengthened, added, or omitted then, at the evaluator's discretion (although sometimes as a result of circumstances beyond the researcher's control). Also, based on information gained during an interview with a trainer or trainee, data gathered from another interview was weighted more heavily or lightly depending on the input. In this sense, data collection could hardly be separated from data analysis.

The data analysis process could be summarized around three interactive phases, as suggested by Miles and Hubermann (1984): data reduction, data display, and data analysis. These phases are components of the data analysis which occurs after data collection.

Data reduction for this study included several cycles. First, notes were reviewed and summarized with the interviewee for verification and completion. Secondly, the notes were more thoroughly reviewed by the researcher and

details and ambiguous responses were clarified as recollected by the researcher. Next, a crude coding system was developed and utilized to identify responses as either "general outcomes," "specific outcomes," "stray subjects," "anecdotal information," "observations," "descriptive information," and "key informant". These categories were used mainly as an organization tool at this stage since patterns as of yet were unknown. After all interviews at the site were completed, other coding categories, such as "emerging theory," and "methodology" were used as a total perspective was gained.

Finally, a site analysis, a discussion with the Project Director served as yet another cycle of data reduction and review. As data were summarized and reported to the Project Director, he verified or questioned the emerging theories as they related to the data and/or offered alternative theories. Through this process, a framework for the following site visit was built, the coding system was refined, and data collection techniques were fine-tuned.

Upon completion of the site visitations, the notes were transferred to instruments including the Interview Summary Sheet, the Observation Summary Sheet, the Document Summary Sheet, and the Key Informant Tally Sheet. Samples of these instruments illustrate yet another cycle of data reduction. See Appendixes A-D. Here, the coding system

had been refined and is evidence of an advanced stage of analysis. Through the recycling of data from notes to data summary sheets, an overall sense of the data was acquired and it became easier to identify information "bins," a term used by Miles and Hubermann (1984) to describe the general constructs for discrete events, conditions, and behaviors in the data.

The process of identifying bins could not easily be distinguished from another critical component of the data analysis process--the development conceptual framework. The development of a conceptual framework for the data analysis is essential even at the data reduction phase. The conceptual framework for this study came out of two sources: the study objectives and the data collected. By comparing and contrasting the major facets of the study objectives with the general categories of data, a workable conceptual framework was created.

First, it became clear from reviewing data summaries of all sites that there seemed to have been various levels of implementation surfacing from training outcomes. On a heirarchical continuum of training outcomes, "improved communications among trainees" had emerged as an outcome on one end and "system-wide implementation" had emerged at the other end. During the pre-analysis phase, several emerging theories indicated that factors such as key advocate involvement, school climate, state level support, and

training strategies might be critical elements of the implementation process. By contrasting these factors with outcomes at the sites, a context for analysis of relationships was developed.

The coding system, or bin labeling was derived from the study objectives as they are listed in Chapter 3, Data Needs, pages 7-10. The coding system, which is presented in Table 3, included labels for the data categories identified in the conceptual framework. After all data summary instruments had been coded, the data were word processed to a Data Summary Sheet, where data were organized by coded categories to facilitate analysis. An example of the Data Summary Sheet is shown in Appendix I. In summary, the conceptual framework was developed through the process of reducing data into bins, and refining the bin labeling through an analysis of study objectives and the emerging theories. The conceptual framework was built around a heirarchical continuum of outcomes and the identification of certain conditions at each site.

Table 3. Data Coding System

Code	Description
COM	Improved communication among trainees
AWARE	Increased awareness of assessment issues
COLL	Increased collaboration activities
DA-PLACE	Use of CBVA for placement
DA-PLAN	Use of CBVA for planning
DA-MON	Use of CBVA for monitoring
DA-TRANS	Use of CBVA for transitional services
TRAIN	Satisfaction with training
ADMIN	Role of administration
SYS	Systemwide change

Chapter 4

Results and Analysis of Data

Introduction

The analysis and summary of data are closely integrated in a qualitative study. The selected method of organizing the data is both a result of pre-analysis and a tool for facilitating continued data analysis. The data are summarized here according to categories of levels of implementation and implementation variables as they emerged through data reduction. Also, the data are summarized first within sites and secondly, across sites. Again, the summarization process mirrors the analysis process.

The data summaries for each in-service site are organized according to the conceptual framework which was developed on the basis of data content areas and patterns as they emerged through a review of the data collected from all sources. The conceptual framework reduces data into two categories: implementation variables and levels of implementation. Implementation variables were identified as either (a) the role of the system advocate, (b) the work environment, (c) external support, or (d) continued training activities. Levels of implementation were indentified as being related to either (a) increased

communication among trainees, (b) increased awareness about assessment issues, (c) increased collaboration to conduct CBVA activities, (d) use of CBVA practices within placement, planning, monitoring, or transitional service functions, (e) program modification and the use of support services as a result of CBVA and (f) system-wide implementation. Data relating to other areas, such as role of the administration, satisfaction with training, and impact on professional development were included in the data summary as well.

Data were coded, regrouped, tabulated, and analyzed according to the methods described in Chapter 3, Data Analysis. The data summaries are presented with as much consistency in format as possible; the conceptual framework, as mentioned above, provided a basic structure for the presentation of data. However, the nature of a qualitative study, relying heavily on open-ended interview formats, grapevine sampling techniques, and direct observations, does not lend itself to neat, statistical data tabulation. Also, the copious notes generated through multiple interviews and many days of observation cannot be concisely presented without losing much of their meaning.

For this reason, the within-site summaries are presented in varying degrees of detail. For example, at Site 1, Chisago Lakes High School, the site visitation plan was structured in advance by the system advocate, data

collection adhered closely to interview schedules and included all field-test participants. Data from this site were easily reported according to source by personnel role, frequency of response, and content areas as they were covered by the interview schedules. In contrast, follow-up activities at the Denver Career Education Center were planned to capture the impacts of training as they occurred at this site. This meant meeting with the "core group" of field-test participants instead of the entire group of trainees, and focusing on the unique set of events and conditions that led to system-wide implementation at this site instead of the format imposed by the interview schedules. The data summary for this site, then, is presented in a more narrative style with less attention to frequency of responses and data categories as they were structured in the interview schedules.

Separate preservice data summaries are also reported by site, highlighting significant outcomes and contextual data as described by the preservice site directors. Data gathered through preservice interviews were, in some cases, woven into the in-service data summaries, particularly when site directors provided key informant data about in-service training or were the source of triangulation data.

Presentation of Data--Within-site Analysis
In-Service Site 1: Chisago Lakes High School

Contextual data for Site 1 centered around three major potential implementation factors: Work Environment, System Advocate, and External Support. In regard to work environment, the data gathered through interviews included repeated individual comments indicating that staff members felt pride in their staff and facilities. Of 14 individuals who were interviewed, 5 made comments conveying a positive attitude towards their work environment, stating, for example, "We're pleased with the staff and facilities--everyone is very cooperative"; "This is an impressive group of vocational instructors--we're unique in this respect"; and "I feel that this school is progressive and despite other offers, I chose to stay here." These comments were made by an academic instructor, two vocational instructors, a special education teacher, and the vocational education resource teacher. These comments, incidently, were volunteered responses; there were no interview questions regarding the subject of the participant's feelings about the work environment.

Several observations supported the finding that personnel at this site demonstrated a positive and cooperative attitude during the follow-up activities and that in general, school morale was high. All trainees participated in the follow-up activities and met first for

an early morning reception and orientation, readily volunteered information during an impromptu tour of the facilities, and each spent approximately one hour for individual interviews. Office personnel offered their assistance and support during the two-day follow-up visit and special arrangements had been made to schedule room space to be used during the follow-up activities. Also, the fact that involvement in the follow-up activities was optional and that all trainees agreed to participate at the VSERT's request, suggests a positive, cooperative attitude towards the follow-up activities.

Several observations were made which indicated that the vocational education programs at the school were valued. The business program had received the highest local award--the "SPIRIT" award and the walls of the business progams office were covered with awards and letters of recognition. The VSERT had kept a scrapbook for the work experience program which documented 15 years of community projects, newspaper clippings, award dinners, and student projects and accomplishments. Data collected on the Key Informant Tally Sheet, and through the interview process included many remarks about the Vocational Education Resource Teacher, who as coordinator for training activities at this site was identified as the "system advocate." She was repeatedly praised for her outstanding qualities: "She knows her job well"; "She's organized";

"She's good about providing background on special needs students I have in my program"; "Her heart is there"; "She has the background and knowledge"; "She's a mover and shaker"; "She wears easily--she has a good personality"; and "She can talk you into something nicely--not aggressively" were comments made by vocational and special educators, counselors, and an academic instructor. These comments were not made in response to direct questions about the VSERT, but surfaced during the course of interviews.

The third contextual area which emerged from the data was related to external support. During a site analysis meeting with the Project Director it was noted that in the state of Minnesota vocational education was a highly valued program, that this support was evident "from the capitol on down" and that vocational education was also a highly valued program at the University of Minnesota. In addition, data gathered through an interview with the Site Director, Dr. David Kingsbury, who lead preservice training activities at Bemidji State University as well as in-service training at Chisago Lakes High School with the system advocate, indicated that the state had been active in developing the curriculum-based assessment concept for Minnesota Public Schools prior to the project field-test at Chisago Lakes. Likewise, the System Advocate mentioned

that support of vocational education at the state level had contributed significantly to her career decisions.

Data gathered through the interview process are summarized according to levels of implementation as they emerged. These levels include: communication; awareness of assessment issues; collaboration; direct assessment activities; and program modification and support services. Other categorical areas of data include: satisfaction with training, role of administration, and professional development.

During 14 individual interviews, 12 respondents, including 4 special education teachers, 4 vocational education teachers, 3 counselors, and the vocational education resource teacher indicated that an overall benefit of CBVA training was improved communication among staff members. These remarks were made in direct response to a question about the "most outstanding benefit of CBVA training." Comments described an overall improvement in communication: "It brought us together in one place--usually there is no time for this"; "It was critical that members got together and discussed--this (CBVA training) was a vehicle for communication"; and "Now we have a more in-depth understanding of what is done in different vocational programs."

Other comments indicated improved communication between specific professional roles: "There has always

been a general feeling among teachers that special education teachers have a low student ratio--an easier job--and there has been some apprehension about this . . . CBVA training has alleviated some of this"; and "Now they (VSERT and VIs) know what each other wants--they know what expectations are now."

Frequent responses echoed the feeling among trainees that CBVA training had increased awareness of assessment issues and concepts as they relate to special needs students. In general, CBVA training was recognized as a "consciousness raising" activity and more specifically, 17 respondents made comments related to awareness of assessment issues. These occurred in three areas:

1. Awareness of current (pre-CBVA) assessment practices and how to improve upon them,

2. Awareness of deficiencies in present assessment practices (either during placement, planning, monitoring, or transitional services), and

3. Changed perceptions about the purpose or nature of assessment.

Comments made by special education teachers, vocational instructors, the vocational education resource teacher, and counselors were not in response to any specific interview question. Comments about improved awareness of current assessment practices included: "I'm more aware of the assessment procedures being used by

counselors and am better informed on how to use them with my (special education) students." Increasesd awareness about deficiencies in present assessment practices was expressed in such comments as: "We would like to see more help in the area of screening--we need help with looking at curriculum and making adjustments for special needs students--with the ecological assessments."

Comments related to a changed perception about the purpose of assessment included: "I now use assessment, not as a weeding tool, but for identifying weaknesses."

Interview responses indicated that trainees were collaborating to provide assessment and support services for special needs students. Specifically, collaboration efforts were noted in six practices:

1. Vocational instructors are providing special education teachers with information about their programs to be used for placement and planning assessment activities;

2. Vocational counselor is visiting classrooms to become more familiar with vocational programs to aid in assessment activities for placement;

3. Vocational counselors are collaborating with VSERT for registration of special needs students;

4. Vocational instructors are collaborating with VSERT to provide support services for special needs students;

5. Vocational instructors are taking part in the IEP process; and

6. Vocational instructors are collaborating with VSERT to create assessment tools and make program modifications.

Nine responses indicated that trainees were using assessment activities during placement, planning, and transitional services and that these activities were directly integrated into the curriculum of the student's vocational program. Responses about direct assessment practices included those from four vocational instructors, four special education teachers, and the vocational education resource teacher and were in direct response to questions about the use of direct assessment practices during the three phases of assessment.

Comments regarding direct assessment activities used during placement and planning included, "I developed a form for communication with parents which I use at IEP meetings. I've gotten some very interesting information from parents which helps me with planning," and examples of direct assessment activities described during interviews included a general automotive background assessment tool for entry-level skill assessment and program planning developed by a vocational instructor, a slide interest battery developed by the VSERT to assess student interest for placement in vocational programs, an alternative math program for

special needs students developed as a result of the assessment of all vocational programs for required math skills for entry, and an equipment identification assessment instrument developed by a vocational instructor to assess entry-level skills.

One comment related to the use of direct assessment practices for transitional services assessment: "Training helped me formulate better questions for social service agencies, like the Department of Vocational Services, and I found out more about the Day Activity Center (sheltered workshop)."

Interview data indicated that trainees are using CBVA data to make program modifications and to provide support services to ensure the success of special needs students in their programs. Vocational instructors reported having developed a number of strategies for adapting curriculum and instruction such as the use of teacher aides, peer tutoring, and special education staff to provide support services for special needs students in their programs. Eleven examples of such modifications and support services were mentioned during interviews with ten vocational instructors and a special education teacher.

In response to a direct question about satisfaction with CBVA training, comments were generally made in terms of specific benefits fo training and so were categorized as they related to previously noted outcomes. Respondents

generally described satisfaction with training in terms of improved communication among participants of the training program and increased awareness about the assessment of special needs students. However, two trainees (an academic/vocational instructor and the VSERT) expressed their positive reactions to the training process, perceiving it as a viable system of assessment and noted several benefits of the training. The academic instructor (fomerly a vocational instructor) felt the system had great possibilities, in that it avoided duplication of efforts, increased efficiency after start-up time, allowed teachers to keep closer tabs on students, allowed for more interventions, quicker and more vocational involvement in the IEP process, and more involvement of parents. The VSERT felt that CBVA is a "common ground--a much needed tool--and a great start for changes." After 15 years in the field she felt that she had seen the need for CBVA a long time ago.

Two specific comments were made indicating a skeptical attitude or ambivalent feeling about CBVA training. Two vocational instructors commented that they had been skeptical during training and felt that some of the CBVA practices would not be feasible. Both stated, however, during follow-up interviews that, overall, training had been a positive experience for the staff.

A few comments were made in direct response to interview questions about administrative involvement in training activities and they consistently indicated that there was little or no administrative involvement in CBVA training since the school was "in between superintendents during the field-test." However, it was also mentioned by a special educator and a vocational instructor that administration was generally "supportive of innovative projects" and were "willing to make changes if they saw a need."

Two responses indicated that participants felt that training had impacted their professional development by either expanding their role or stimulating them to pursue further professional development in special education or assessment or special needs students. Namely, the VSERT saw her role as expanding since CBVA training, specifically in the area of transitional services, although she could not say for sure that this was a direct result of training. A vocational instructor did feel that her interest in special needs assessment was stimulated by CBVA training and that she was seriously considering graduate work in this area.

A secondary outcome of training, the impact of the follow-up activities, was noted during the exit interview with the system advocate. When asked by her principal, "How did it go?" the system advocate was enthusiastic

about the effect of the follow-up visitation. She described the follow-up as a "shot in the arm" and said, "It got things humming again." She went on to explain that it had much the same effect on the staff as the accreditation proces, boosting morale by giving the staff some well-deserved recognition and by "giving the teachers the opportunity to talk about their programs." Two other trainees, one vocational instructor and one special education teacher, remarked that the follow-up visitation had stimulated them to follow through on some major assessment activities that were in the development stage.

In summary, the data collected at Chisago Lakes High School through interviews, document review, and observations indicated that outcomes of CBVA training were primarily in the areas of improved communication; increased awareness of assessment issues as they relate to special needs students; collaboration among vocational, special education, and the vocational resource education teacher to use CBVA. The use of direct assessment practices during placement, planning, and transitional services; modifications to vocational programs; and support services to ensure the success of special needs students in vocational programs were also outcomes that occured as a result of training. In addition, the data included contextual aspects of the site which indicated that the

work environment was positive and progressive, that the system advocate (the vocational education resource teacher) was a highly regarded, influential individual, and that external support from the state of Minnesota was present. The effect of the follow-up as an important intervention was noted by the system advocate and two trainees as well.

Preservice Site 1: Bemidji State University

A telephone interview with the site director at Bemidji State University covered the events leading up to his involvement in the field-test program, as well as his current involvement with CBVA and future plans for CBVA related work. The site director, Dr. David Kingsbury, acted as both preservice trainer at the university and as the director for training activities at the in-service site, Chisago Lakes High School. Training activities strictly related to the field-test program included one course for in-service trainees held at the high school campus, and one informal attempt at a pre-service course and two "official" preservice couses at Bemidji State University.

The site director, however, described his involvement with the CBVA concept prior to field-test training as a long-standing interest in the work done in this area by Albright, Sarkees, Cobb, and Larkin. Describing his familiarity with CBVA as "80% conceptualized," he felt that

project related papers prepared by Albright and Cobb crystalized his understanding of how the system could be used in schools.

Others examples of involvement in CBVA activities prior to the Chisago Lakes field-test program included participation in state workshop which reflected attempts by the state of Minnesota to implement general CBVA concepts in Minnesota Public Schools. In addition, he had been approached by the State Department to prepare a vocational assessment manual for Minnesota, which he developed on the basis of his advocacy of the CBVA system. The site director explained that his involvement with the state workshops and policy development could be considered a "quasi-direct" outcome of CBVA training, since these activities began prior to official field-test involvement but were continued with the field-test activities serving as a catalyst to further involvement at the state level.

The Chisago Lakes High School in-service training program, was delivered through the use of the CBVA project training modules and was described by the trainer as a positive, effective experience. He mentioned the superior leadership ablilities of the system advocate at the site and credited her for the successful reception of the field-test program and continued use of CBVA at the site. He felt, overall, that trainess had benefited from the field-test programs, but that although the interaction had

successfully introduced the content of the CBVA system, organizational change would require at least one to three more years of extensive interventions. He commented on the meaning of "school-wide change," logistical change," and "functional change" and described the "push/pull effect" as a process through which implementation occurs in an organization. He explained that in order for the "technological transfer" to occur in schools, the change would have to meet the local organizational demands, in short, "the school would have to want it."

The site director discussed another aspect of his personal involvement with CBVA concepts which has developed in a parallel fashion to his academic application. His work in the private sector in human resource development has included consultant services to three companies using CBVA principles for recruiting, hiring, and training people for jobs in manufacturing and production. He described this application of CBVA as a "systematic way of getting the right people to apply for jobs." He explained that the use of CBVA concepts for private industry had been developed independently by the owner of a paper manufacturing company, who had stimulated his interest in this kind of application.

The site director expressed his intention to continue work in organizational development with thirteen school

districts in Minnesota and to start new programs using CBVA concepts. In summary, the site director's involvement with CBVA began before his participation as site director for the field-test program and will continue both at the university, in Minnesota public schools, and through consultant work with private industry. The trainer expressed his satisfaction with the field-test program and strong interest in the further implementation of CBVA concepts.

In-Service Site 2: Monroe High School

Contextual data for Site 2 related to the areas of System Advocate, External Support, and Work Enivornment. The system advocate, the vocatioanl education resource teacher (called Resource Vocational Instructor at this site) was repeatedly described during interviews as a highly valued colleague. The three vocational instructors interviewed and a counselor remarked that he was "a warm and caring teacher", "really good at his job", and that he was a great improvement on the individual who previously had the RVI position. It was apparent that the system advocate was quite familiar with the vocational programs visited for interviews, since he took over the classess while the vocational instructors were being interviewed. Also, during observation of the system advocate at work with his special needs students for approximately one hour,

he helped students with resumes and job counseling, assisted a student taking a cosmetology test, and discussed plans for an extra-curricular activity with in-coming students; he handled a variety of student needs in a short time (in an extremely small office space) with ease. His relationship with the students appeared to be extremely good; it was obvious that they respected and liked him a great deal. Several awards hung on the walls of his office, among them three separate "Teahcer of the Year" awards. During the two day visit at the site, the system advocate exhibited a high energy level, a positive attitude and a strong commitment to his work.

During an interview, the system advocate described his influence over the participants in the field-test and stated that the trainees were generally cooperative about training activities but considered it "just a test" and seemed to "go back to their old ways" soon after training. He added that if he had "pushed it", he could have influenced them to continue efforts to implement CBVA more formally, but that he had lost his enthusiasm for the project when shortly after the field-test program, the site director from the university resigned and moved out-of-state to assume another university post.

This information seems to be significant since it verifies the critical role of system advocate and also since it aludes to the importance of external, in this case

university personnel, support for implementation. The system advocate summarized this notion by stating, "When (Site Director) left, I felt the project was unimportant." He went on to say that since there was no immediate follow-up training, efforts at implementation were mostly discontinued. The idea of the significance of the loss of external support at this site, was verified through a prior interview with the Site Trainer. Also, two interviewees had mentioned they appreciated the external support they received from university personnel during training.

There were no specific data that indicated that this was a particularly positive or negative work environment; no comments were made during the visit to indicate that the staff was either enthusiastic or disillusioned with the follow-up visit, it was noted that preparations for the visit appeared to be minimal and only 5 of the 12 field-test participants were scheduled by the vocational education resource teacher for follow-up interviews.

Decriptive data about the work environment, however, did included one vocational instructor's comments about a certain degree of tension that existed at the site due to a lawsuit pending in regard to a special needs student who had died as a result of an injury which occurred during incident and other similar problems at school in the area, he described, had instilled a fearful attitude among teachers about getting involved with special needs

students. He went so far as to admit that "a lot of teachers didn't want special needs kids in their classes."

The same vocational instructor also described what he perceived as a negative attitude from parents and the community about special needs students. He decribed a tendancy towards overprotectiveness on the part of parents and sometimes a reluctance to encourage employment for their children because it would mean they'd loose monetary benefits. He also described high racial tension at the school, which had about a 50:50 black to white ratio, and that the community tended to "blow up" over school problems. These data could be significant in terms of viewing training outcomes.

In summary, contextual data describing the role of the system advocate, the role of external support, and the work environment can be used to interpret interview data regarding levels of implementation at this site. Interview data indicated that trainees at Monroe High School had experienced improved awareness about assessment issues as they relate to special needs students; were collaborating with the VSERT for assessment; were using some direct assessment activities during placement, planning and transitional services; and were modifying instruction and providing support services for special needs students in their programs.

There were 21 responses made during interviews that indicated that there was an increased awareness about assessment of special needs students. Eight responses were from one counselor, including: "Before training my concept of assessment was Iowa tests--now I see it more as matching talents to special needs"; "I still see needs not being met, but awareness about special needs kids has increased"; Responses from three vocational instructors included: "I've always been aware of special needs students' different levels, but I've made some improvements since CBVA"; and "You can throw standardized tests out the window--students are competing against things they don't know about." Comments made by the vocational education resource teacher regarding awareness of assessment issues included: "The greatest benefit has been more awareness about options for special needs students"; and "I see the need for CBVA, after training, I took APTICOM and threw it in the trash." Three responses during interviews indicated that trainees were collaborating to assess special needs students. Two vocational instructors and one counselor mentioned that they worked with the VSERT to adapt tests for special needs students and for transitional services planning. The counselor indicated that she relied on the VSERT for placement of special needs students in vocational programs. As mentioned in the observations about the system advocate (VSERT), it was obvious that he was quite

familiar with many of the vocational programs and he asserted that he spent a great deal of time actually in the classrooms with each of his 25 special needs students.

Interviewees gave seven examples of how they were using direct assessment activities for placement and planning of special needs students' programs as well as for transitional services for their special needs students. A vocational instructor described how he intervened in the case of a student who had been employed by a local lumber company after completion of his program: "He called me up (the student) and told me he was fixin' to quit because he was afraid to drive a truck--so I called the employer, talked to them about it . . . and they said, 'no problem'. He still has that job." Another instructor uses a right- and left-handed threading nut and bolt test to determine mechanical ability and problem solving skills for making instructional decisions. He added, "I don't call it a test, I just say, 'do this', and I observe." Another instructor developed an interview and questionnaire for entry level skill assessment during training and now uses an adapted version. A vocational instructor described how she helped get a student a job in a veterinary clinic by preparing the employer that the student had special needs and made several follow-up visits to the job site. She added that the student was still employed after 2-1/2 years.

Three examples of vocational instructors making program modifications and providing support services included a vocational instructor who now modifies his program for special needs students by assigning lower level projects, a vocational instructor who now uses a flannel board identification test for fruit tree leaves instead of the 200 question agriculture and science test she previously used, and a vocational instructor who provided additional early morning instruction to demonstrate the use of appropriate drill bits for a special needs student who had reading difficulties.

The data also included remarks about satisfaction with training from two trainees who described how they felt training was lacking and suggestions on how they would improve future training efforts. A special education teacher felt that training was "borderline", that it "touched upon things, but didn't get into what you actually do with kids," and that it was "tough even for someone with special education and resource vocational teacher background--for the typical vocational instructor it was too much--you need five times more training to really understand it." He compared training to Introduction to Special Education and said that it didn't prepare teachers for the real situation. He made several other negative comments about the involvement of the counselors, "they just give lip service, they don't really get involved," and

the administration, "they're not really involved--they just viewed it as only a test and a way to look good in the newspapers. . .the actual paper-work is another story." His suggestions for improvement on training and/or implementation included using a daily monitor or support person and at least a month for training. The VSERT had very specific ideas about how he envisioned improved CBVA training. He advised not to use modules for training but to only give an overview of concepts to trainees. He felt that instead of one-shot training, an on-going approach to training, with frequent follow-up, would be more effective. Also, he saw the benefit of using the field-test people as trainers because, "teachers relate to teachers--not bureaucratic projects."

The system advocate also expressed his feeling that the follow-up visitation had renewed his interest in the project and reaffirmed his belief that the CBVA system could successfully be implemented at Monroe High School. He indicated that he would pursue the opportunity to participate in the up-coming training workshop to be held at California State University, Long Beach, utilizing local funds that he had access to by including several other field-test participants in continued training as well. He mentioned that he felt the trainees were encouraged by the validating effect of the follow-up visit.

Closing comments by the VSERT included his uncertainty about whether or not vocational instructors "really got the concept of CBVA," his feeling that "the vocational instructors still don't realize the importance of assessment," but that prior to CBVA they had no knowledge of the Carl Perkins Act and that "CBVA, overall is a fantastic program--we need full-fledged implementation."

In summary, follow-up data indicated that outcomes of training at Site 2 were primarily in the areas of increased awareness of assessment issues; the use of direct assessment activities for planning, placement and transitional services; program modification and collaboration between the vocational instructors and the vocational education resource teacher. However, the limited number of field-test trainees who participated in the follow-up activities (five) suggested that training had not impacted the non-participating trainees (7) to the same extent. Contextual data indicated that the system advocate was an effective motivator and highly regarded at the site, and the external support from the university had been high but was withdrawn shortly after field-testing. The work environment was characterized as racially tense, and the general attitude about special needs students had been described as negative as a result of a pending lawsuit involving a special needs student, and the difficulties of parental and community resistance towards improving services to special needs

students. Despite these conditions, evidence also was obtained which suggests that the trainees had become more open to accepting and working with special needs students in their programs. Finally, the follow-up visit was perceived as an important intervention for renewing interest in the CBVA system.

Preservice Site 2: University of Georgia

Data collected during a telephone interview prior to and after the in-service site visitation with the trainer, focused mainly on background information about the in-service training program. Only brief mention was made in regard to the preservice courses taught at the University of Georgia by the site director and trainer, where the CBVA system modules had been infused as the assessment component of a special needs course. The in-service training was delivered initially by the site director and the trainer at the University of Georgia campus where they jointly "warmed up" the trainees through two all-day sessions. Training continued at the high school during afternoon sessions, with the trainer providing technical assistance to the trainees on an individual consultant basis throughout the spring and fall 1987 training periods.

The trainer discussed several important issues related to follow-up data collection which entailed key informant information, his perspective on the breakdown of support

that occurred during the field-test, and the role of administration in the field-test program. Interestingly, without having discussed plans for the follow-up activities with the system advocate at the site, the trainer identified four participants, in addition to the system advocate, whose "minds were ripe" during the field-test training and who would probably be the most productive sources of follow-up data. These four individuals, all vocational instructors, were in fact the participants recommended by the system advocate for interviews as well. The trainer felt that of the 15 vocational programs at the comprehensive high school, only the instructors from these four programs had "really gotten involved" with CBVA training. He also described a fifth member of the training group whom he recommended for an interview with reservations, commenting that this special education teacher would probably provide negative feedback.

Secondly, the trainer expressed doubt that the system advocate had continued efforts at implementing CBVA, perceiving the abrupt departure of the site director from the field-test training effort as a significant cause. The trainer perceived the influence of the "outside system advocate," the site director, as having been crucial to creating a system change.

Finally, the trainer commented on the lack of administrative support at this site, but qualified this observation by noting that in a sense, "by giving full support to [the system advocate], administration was supportive." He also pointed out that the administration at the site did support the program by sending the system advocate to a Washington, DC project staff meeting.

In-Service Site 3: Denver Career Education Center

Contextual data collected at the Denver Career Education Center (DCEC) related to four major areas: System Advocate, Work Environment, External Support, and Training Strategy. Data gathered through interviews, observations, and document review indicated that the most significant training outcome was system-wide implementation of CBVA at the Career Center and continuing implementation efforts throughout the Denver public school system. Implementation also occurred at the levels of improved communication, increased awareness of assessment issues, and collaboration. Data collection efforts concentrated mainly on the conditions, strategies, and elements which contributed to the successful implementation at the site.

The role of the system advocate was repeatedly acknowledged in the data collection process as being of prime importance to the successful implementation at the

site. A pre-site interview with the Site Director (university personnel) indicated that the system advocate had made "all the difference in the world for implementation . . . she cleared the path . . . presenting CBVA as a viable form of assessment." She went on to describe the system advocate as being "the best thing that ever happened to our system."

The system advocate was repeatedly praised during the group interview for being "highly respected in the field" and it was noted by the resource specialists that she "paved the way" for CBVA implementation by continually encouraging and motivating the trainees. Her effectiveness at briefing the principal and assistant principal on the federal mandates regarding assessment of special needs students and clearly relating these to the goals of the CBVA system was noted as a key factor in winning administrative support for implementation. The Site Director reiterated the unique talents of the system advocate in public relations, effective communication techniques, and people management skills. As the Supplemental Services Coordinator for Denver Public Schools, this individual's main function, to appropriate funds for training, supplies, and equipment to address the Carl Perkins Act, was perfectly suited to the role of system advocate for CBVA training and implementation. Likewise, by supplying funds for on-going training,

including summer development, the system advocate was able to maintain continuity from field-test training through implementation and as noted by the Site Director, "will keep things alive."

The role of the system advocate at this site was clearly critical; however, it was the combination of several key factors that resulted in full-scale implemenation of CBVA training. A supportive work environment seemed to have fostered implemenation efforts as well. The assistant principal remarked that "CBVA goes perfectly with the Denver Career Education Center philosophy because it is a system in which all students find success." Other data gathered through the group interview included comments depicting the DCEC administration as highly innovative: "In the past three years, we've had 21 new programs . . . anything new, exciting in schools, we like to try." Another comment described the center prior to the hiring of the system advocate and current assistant principal as "the castle on the hill . . . you couldn't get special needs people in here." A resource specialist compared DCEC to a school she previously worked at saying that, "It (former school) had no cohesiveness, it was departmentalized, territorial . . . here we all work together for the outcome of the school."

Other comments relevant to the work environment at the site indicated that key DCEC personnel, namely the system

advocate, was familiar with the concept of curriculum-based assessment prior to CBVA training: "Prior to training, I (system advocate) had looked at CBVA as one of the assessment techniques out there. The site director at University of Northern Colorado didn't have the training materials at that point, but when she did bring those materials in, we had already been moving on CBVA." The site director verified this prior activity in curriculum-based assessment remarking several times that DCEC was "so far ahead of the other schools (in the Denver Public School system) that training was used to refine and build on what they already had."

Certain other data related both to the work environment and the approach to field-test training and continued training suggested that the cooperative interaction of core personnel was critical for successful implementation. The core group, or training team, consisted of the site director from the university with another university faculty member lending full support, the supplemental services coordinator, the director of special services at the site, the assistant vice principal, three resource specialists, and one vocational instructor. Through this interagency involvement, a "pyramid" approach to training occurred that was described as a way of "sharing the load", and "getting others to buy into the

system." The site director stated that "it took all of us working together to pull it (CBVA training) off." Factors contributing to successful, full-scale implementation at DCEC included the role of the system advocate; a supportive work enviroment which involved external support from the university and the cooperative efforts of separately funded staff members; and a unique approach to field-test training and continued training that relied heavily on the first two contributing factors. Given a site already effectively working on curriculum-based assessment, a cooperative and motivated staff, a highly qualified system advocate with sufficient resources and influence over administration to initiate the system change, the site director found the DCEC to be uniquely suited to CBVA implementation. The training process was collectively described by the core group members as the following sequence of events:

1. Prior to CBVA training, the system advocate had hired resource specialists to run the supplemental services programs at each of the Denver Public Schools. She carefully enlisted the support of the principal and assistant principal at the on-set to reinforce the relationship between the resource specialists and the administration, thus encouraging the acclimatization of the resource specialists to the school environments.

2. The site director met with system advocate and director of special services at DCEC and informally reviewed the training materials.

3. The three looked at assessment priorities at DCEC and identified the areas to be targeted in training as placement and planning, focusing on pieces of the relevant CBVA modules such as job try-outs and work samples to develop in the training.

4. The system advocate recognized that the resource specialists were fully aware of the wide array of assessment practices currently available and was sensitive to their suspicion of change when she introduced the CBVA concept.

5. The site director provided technical assistance on an individual basis to the three core group resource specialists, seizing an opportunity to work with one resource specialist who was having difficulty with a student inadequately placed in a vocational program according to an APTICOM assessment.

6. The site director did not use actual training modules, but instead presented the process to the resource specialist by having her identify 10 critical entry level skills for predicting the student's success in the vocational program. After narrowing them down to five, the resource specialist was asked to create assessment tools

using those skills. This process became known as developing "job try-outs" or "modules" and was adopted as the on-going method of training of resource specialists in curriculum-based assessment.

7. The initial "job try-out" or "module" was developed as a result of a joint effort on the part of the site director, the director of special services, and the resource specialist who together attended the vocational class several times to observe first-hand the critical skill areas needed for entry into the commerical design class to be used for assessment. The vocational instructor worked closely with the group as well, in a process of breaking down tasks into specific skills and creating appropriate placement work samples.

8. Once the first resource specialist had successfully developed and used the module, she joined the core group and proceeded to train two other resource specialists at the site.

9. The system advocate continued to have monthly meetings with the entire group of resource specialists (approximately 30), alluding to the CBVA process but giving no formal training at this point except to assign the skill analysis task to the trainees as preparation for an up-coming training activity. (Training was to take place in Vail, Colorado and was presented as a "perk," an "exciting

activity" and a working retreat." The system advocate had sufficient funds to provide accomodations for the weekend training activity including expenses plus fringe benefits for the core training group.)

10. The site director and support university faculty member led the training seminar with examples of informal math and reading tools (not CBVA modules) to show the "process" of CBVA.

11. The other core group members, which included the director of special services, three resource specialists and the vocational instructor, presented the concepts as they learned them through their actual use of CBVA at DCEC.

12. The remainder of the two-day session consisted of a problem-solving, one-on-one workshop activity in which participants created work samples to be used as assessment tools for various vocational programs.

13. Continued training occurred at the regular monthly meetings of resource specialists during which participants shared their experiences with using the CBVA assessment modules at their schools and new members developed try-out modules using a model format.

In addition to the group meeting that included the core training group members, the follow-up visitation included an observation of a meeting of Denver Public School resource specialists. This meeting had been

deliberately scheduled by the system advocate to contribute to the follow-up effort and allowed for an opportunity to collect data from the resource specialists about their satisfaction with training and their experiences with using CBVA.

In general, the resource specialists felt "more positive than negative" about CBVA training, remarking that they felt "a bit overwhelmed at first . . . found it difficult to understand" but that later "after talking with instructors . . . saw a common thread, saw patterns, and it made sense." In a later interview, the site director stated that she felt the resource specialists appreciated being involved with the field-test, as it brought the recognition that comes from being associated with a model site and "being connected with something innovative." A few core group members had even thanked her for "letting them do this" and said that they were "honored" to have been a part of the project.

Several comments were made suggesting that a major benefit of CBVA training was increased awareness about the vocational programs and improved relationships with the vocational instructors. "Going into the classrooms more" was repeatedly mentioned as an outstanding benefit of CBVA training and implementation. The site director reaffirmed the increase in the level of collaboration among trainees

stating that the resource specialists "do an excellent job of monitoring--they go into the classrooms two times a week as a routine--there's no paper involved--they talk to teachers and support them and don't count on the vocational instructors for referrals." During the meeting, numerous examples of work performance samples were observed and many others were enthusiastically described by the resource specialists who created them.

In summary, data collection activities at Denver Career Education Center consisted of a group interview with the core group participants (which continued through lunch with the group), observation of a monthly supplemental services personnel meeting, and an initial and exit interview with the site director. Interview data focused mainly on the interwoven variables of system advocate involvement, supportive work environment features, and the sequence of events that occurred during the field-test training and continued training. The most significant outcome at this site was the movement toward system-wide implementation of CBVA activities throughout the Denver Public Schools. Implementation at the Denver Career Education Center occurred primarily in the areas of placement and planning using the work sample approach for entry-level assessment. Other levels of implementation included improved communication, collaboration, and

awareness among the supplemental support services personnel, vocational instructors, and administrators. In addition, the follow-up visitation served as an important intervention, as it resulted in the commitment from the assistant principal to provide monetary incentives for vocational instructors who participate in future CBVA training functions.

Preservice Site 3: University of Northern Colorado

While much of the preservice follow-up data from the trainer at this site has been infused into the in-service data summary, an exit interview with the site director included additional information about her approach to in-service and preservice training, insights about implementation in the Denver Public Schools, an unsuccessful attempt to implement CBVA in Colorado, and her future plans regarding CBVA.

The site director described her involvement in preservice training which included two years of teaching an assessment class at the university. She listed course objectives as (a) an understanding of CBVA, and (b) an ability to actually implement it, qualifying this by stating that students should be able to use CBVA to at least meet Carl Perkins mandates in a program with little or no resources.

Her involvement with in-service training began with several assessments of local schools to examine their assessment priorities, which led her to the Denver Career Education Center, where the CBVA process matched the assessment needs of the school. The site director stressed the importance of individualizing the CBVA system to the particular needs of the school, "taking key features and saying, this is how it works." To introduce the CBVA training program at the in-service site, the site director looked at basic concepts of student curriculum such as; "planning, placement, job try-outs, and work samples," but did not use the precise training materials.

She emphasized that the successful implementation at DCEC was due, in part, to the fact that the Center already had "a lot in place" and that CBVA training should be used to refine and build upon what they already had. She repeatedly cited the outstanding qualifications of the system advocate who, as supplemental services coordinator for Denver Public Schools, "cleared the path" for CBVA training, utilizing a newly hired team of resource specialists to train in and implement CBVA. In regard to administrative support at DCEC, the site director did not see the assistant principal as truly being the administrator during the field-test, but instead saw the system advocate in this role. She viewed his enthusiasm

and commitment during the follow-up visitation as a result of the follow-up activity itself, described it as an attempt to "share in the glory" of the successful implementation of CBVA.

Attempts at implementation were not as successful at another school where, despite strong external support from the site director and another university faculty member, key personnel "did not get it at all." The site director attributed this result to the lack of an effective inside system advocate; the individual responsible for system advocay was "full of knowledge" but did not have the needed interpersonal skills to motivate the staff. Although CBVA training didn't result in full implementation at this site, the site director saw even this partial involvement as a "step in the right direction," increasing awareness about CBVA concepts.

The site director saw her role as an external supporter for in-service training as being that of an objective outsider. She attributed her effectiveness as a supporter to the fact that she was "just removed enough, confident," and that she "didn't take resistance from trainees personally." She supported training efforts by "addressing fears and concerns about the newness of CBVA."

She mentioned that one area of resistance during training was the issue of time, explaining that it was

"getting kids out of class for assessment" that was difficult and "not development time."

Another area emphasized during the interview with the preservice trainer was the support provided by her superiors in the Colorado Department of Education. She named two state level administrators who were quite familiar with and supportive of her work with CBVA. The site director made concluding remarks that reinforced her great interest in CBVA and indicating that she planned to persue implementation at various schools, including post secondary schools, commenting that "calls continue to come in with volunteers coming forward to try CBVA." She described CBVA as "very positive--yet another reason to get into the classroom."

In-Service Site 4: North Orange County ROP

Data collection at North Orange County Regional Occupational Center (NOCROP) was limited to two interviews, one with the Director of Planning and Development, the key administrator who was involved with the establishment of the field-test program, and another with the Handicapped Programs and Services Specialist, who assumed the role of field-test coordinator. Since formative evaluation data collected prior to the follow-up activities indicated that the field-test training program had not been effective, the

interviews focused mainly on reflections of these individuals on the training program and their perceptions of outcomes.

The Director of Planning and Development had not been directly involved with the actual training, but instead had reviewed and evaluated the training materials and assisted in the selection of the field-test participants. She felt that the CBVA system was excellent, the materials were good, but that the problem with the field-test program was rooted in the lack of cohesiveness among the field-test team members. Participants had been selected from three high schools within the ROP, forming three sub-teams consisting of representative samples of vocational instructors, special education teachers, and counselors from each school. The Director of Planning and Development felt that this arrangement resulted in a disjointed, logistically unmanageable training group which appeared to have detracted significantly from the effectiveness of the training program.

She also noted that a recently conducted accreditation study had included among its findings, that the ROP was lacking in involvement with special education students at the high school level. The field-test training experience, she felt, had reinforced this finding. Furthermore, she mentioned that the position of Handicapped Programs and

Services Specialist, the personnel role identified as the system advocate for the field-test, did not entail much involvement with the high school students. Consequently, this individual rarely collaborated with the high schools' special needs staffs, a situation which impaired her effectiveness as CBVA system advocate.

The Director recommended that a workable plan for implementing CBVA in the ROP setting be developed. She remarked that despite the difficulties of conducting the field-test at the ROP, feedback at the district level suggested that the program was beneficial and that the training materials "gave the opportunity for staff to be more knowledgeable-- to deal with colleagues in the area of assessment."

In reference to ideas for improved training efforts in the future, the Director cited more structured in-service training with on-going assistance as being extremely helpful. She emphasized the need to "start small" with a select group, using a "few practitioners to spread the concepts on to others." For field-test purposes, she saw the need to "take participants all the way through the training as a group, winning commitment from them from start to finish."

In closing, the Director expressed interest in pursuing additional CBVA training at NOCROP by stating that

the impact was "stronger than awareness--the field-test resulted in understanding of these concepts that will carry over into the future."

The second interview at NOCROP was with the Handicapped Programs and Services Specialist who had acted as system advocate during the field-test program. Her perception of the impact of training was that of a temporary improvement in communication among participants that "went back to the way it was" after the field-test. She mentioned that a chief supporter of the CBVA system, a vocational instructor who was involved in the field-test included training in a commercial assessment reports based on APTICOM and work samples. Her feelings about CBVA were that "it is a good idea" but that she sees the advantages of using more traditional "assessment center procedures." She cited several reasons for her view, and explained that the lack of distractions in an assessment center, the specialized training of the assessor, and the quantified, more objective nature of the assessment results obtained in the assessment center were advantages over CBVA. She described her current involvement with high school students with handicaps as being limited to "hard to place" cases, and felt that the special education staff at the high schools were adequately serving these students.

In summary, findings at NOCROP indicated that outcomes of training were very limited. It is possible that training improved awareness of assessment issues and that the field-test will result in future training in CBVA. According to the key administrator involved in the field-test, the program brought a deficiency in the special needs service area to light, reinforcing the findings of an accreditation report. The most significant finding at NOCROP was the focus on the organizational difficulties of establishing a CBVA training program at an ROP. Also, the unsuitability of the position of Handicapped Programs and Services Specialist as it existed during training, for the system advocate role was clearly noted.

Across-Site Data Analysis

In a multiple-site study, greater explanatory power and generalizability can be achieved through an analysis of processes and outcomes that occur across many sites (Miles and Humberman 1984). The authors stated that through the comparision of sites, the analyst can, "establish a range of generality of a finding or explanation and pin down the conditions under which that finding will occur" (p. 151). The present study included a cross-site analysis of three in-service sites and three preservice sites; these data were combined for across-site analysis since within-site analysis revealed that interviews with preservice trainers

or site directors concentrated mainly on in-service training and implementation issues. The fourth in-service site, NOCROP, was not included in the across-site analysis.

The relatively small number of sites involved in the follow-up greatly simplified the across-site analysis process. Since it was possible to obtain a sense of across-site findings prior to the actual write-ups of each site, the initial analysis by site was organized and displayed with the across-site commonalities in mind. This pattern of organizing and reducing data into levels of outcomes and implementation variables was useful for both within-site and across-site analysis. Extraneous data, those data which fell into categories outside of the two major areas of findings, were grouped into a third cluster, training recommendations. These recommendations came from in-service and preservice comments about effective training strategies based on the field-test experience. The identification of this third cluster for across-site analysis was based on a major study objective which was to provide data on training processes for future implementers.

The process of across-site analysis began with a juxtaposition of the individual site summaries into one large data display. Comparisons and contrasts were more clearly made through the process of organizing individual site findings according to the various levels of outcomes

and by implementation variables and then displaying the data for all three sites in chart form. Of course, the individual site data summaries needed to be greatly reduced to make such a simplification possible. The reduction of data for across-site analysis was accomplished in part by an analysis of levels of outcome data which resulted in the establishment of three increasingly comprehensive outcome levels. Level one included improved communication, increased awareness, and increased collaboration; level two included the use of direct assessment activities for placement/planning, monitoring, or transitional services; and level three included systemwide implementation.

The process of data reduction for across-site data analysis display entailed a preliminary review of data in terms of context, multiple source verficiation, and ambiguity of responses. From here, data were ordered or classified, a process which Miles and Huberman referred to as the "transformation of narrative text into short quotes, summarizinng phrases, ratings, and symbols" (p. 152). For example, data relating to the outcome of increased communication at each site were assigned values of either high, average, low, or none based on the sense of generality gained through a perusal of across-site data in that area. These assigned values were used only as gross sorting tools; descriptive text was easily retrievable for

more fine-grained analysis. For implementation variables, other rating labels, such as "excellent, good, fair, and poor," to describe the system advocate; and dichotomous categories such as "yes and no" to denote whether or not continued training efforts occurred were used. The Unordered Meta-matrix: Levels of Implementation, Table 4, and the Unordered Meta-matrix: Implementation Variables, Table 5, show how data from each site were assembled coherently in one place. Through viewing the display of data in Tables 4 and 5, it became clear that there was a distinct relationship between the levels of outcomes and the presence or absence of the implementation variables. At Denver Career Education Center, where implementation occurred at all three levels, the four implementation variables were present as well. At Chisago Lakes High School, where implementation occurred most distinctly at level 1 but also at level 2, three of the four implementation variable were present. Finally, at Monroe High School, implementation did occur to some extent at levels 1 and 2, and only one of the four implementation variables was totally present, with a second being present, but withdrawn shortly after the field-test.

This pattern is illustrated in Table 6, Site-ordered Predictor-outcome Matrix: Implementation Variables as Related to Levels of Outcomes. While this analysis process

Table 4. Unordered Meta-matrix: Levels of Implementation

	L1			L2					L3
Site	Com	Coll	Aware	Pl	Pn	DA Mon	Ts	Ss	Mod Sys
DCEC	Av+	Av+	High	High	High	High	None	None	Yes
CLHS	High	High	High	Av	Av	None	Av	High	No
MHS	Av	Av	Av	Av	Av	None	Av	Av	No

Note. DCEC = Denver Career Education Center; Com = Communication; CLHS = Chisago Lakes High School; Aware = Awareness; MHS = Monroe High School; Coll = Collaboration; DA = Direct Assessment Activities; Pl = Placement; Ll = Level 1 outcomes; Pn= Planning; L2 = Level 2 outcomes; Mon Services; Mod/Ss = Modifications/Support Services; Sys = Systemwide Implementation;

Table 5. Unordered Meta-Matrix: Implementation Variables

Site	SA	ES	WE	CT
DCEC	Excellent	State + Univ	Positive	Yes
CLHS	Excellent	State	Positive	No
MHS	Good	Univ/WD*	Negative	NO

Note. Legend for codes: DCEC= Denver Career Educuation Center; SA = System Advocate; CLHS = Chisago Lakes High School; ES = External Support; MHS = Monroe High School; WE = Work Environment; CT = Continued Training. *WD = Withdrawn.

represents a drastically reduced version of across-site data, it serves to illuminate the relationship of implementation variables to levels of outcomes across sites. Miles and Huberman (1984) advised using the site-ordered predictor-outcome matrix "when you want to see how several contributing factors function together in relation to different levels of a criterion measure" (p. 174). The use of a predictor-outcome matrix facilitates the jump from descriptive to explanatory analysis, testing the extent to which antecedents will predict certain outcomes. These antecedents, or implementation variables, were solidly grounded in the data; they surfaced unequivocally and consistently during the individual site data collection. Also, levels of outcomes were ordered on the basis of CBVA system objectives and verified through input from the project director during site analysis meetings. In addition, as part of the qualitative methodology, emergent theories were tested and re-evaluated throughout the data collection process. This methodological feature resulted in the accumulation of data which was relevant to the emerging themes, contributing to the predictor-outcome method for across-site analysis.

It appears form this analysis that the role of the system advocate, external supporter (from the state, university, or both) and the work environment are important

contributing factors to implementation. However, continued training, which was only present at the site which

Table 6. Site-ordered Predictor-outcome Matrix: Implementation Variables as Related to Levels of Outcomes

Site	Levels	SA	ES	WE	CT
DCEC	1, 2, 3	X	X	X	X
CLHS	1, 2+	X	X	X	
MHS	1, 2	X	X-		

Note. Legend for codes: DCEC = Denver Career Education Center; SA = System Advocate; CLHS = Chisago Lakes High School; ES = External Support; MHS = Monroe High School; WE = Work Environment; CT = Continued Training.

demonstrated systemwide implementation, appears to be the critical factor in facilitating organizational change. Since the particular training strategies used at Denver Career Education Center were the only attempts at continued training among the three sites, it is difficult to say whether the systemwide changes were a direct result of those particular training strategies or if any continued training efforts would have resulted in system-wide change. It appeared, however, from the across-site data analysis on training recommendations, that suggestions for future training efforts from CLHS and MHS were similar to actual training strategies at DCEC. It seemed, then that a

specific approach to continued training was a predictor of systemwide implementation.

Also, since the across-site analysis indicated that a combination of the four variables was present at DCEC; it is not likely that continued training alone would have resulted in systemwide implementation. This notion is supported by combined data from CLHS and MHS which clearly indicated that the effectiveness of the system advocate, the conduciveness of the work environment, and the degree of external support were important factors for implementation at the first two levels. Furthermore, data from DCEC indicated that the continued training efforts were immeshed with the other three variables. The successful "pyramid" approach to training clearly relied on the team effort of the sysyem advocate and the site director (external support) and the cooperative relationships and positive professional attitudes of key members of the "core" training group (working environment).

The third cluster of across-site data grouped recommendations from all sites on effective training procedures. This cluster was not included in the unordered meta-matrix analysis or the predictor-outcome matrix since this aspect of the data seemed to be a peripheral to the major emergent pattern. However, since the data were pertinent to a major study objective, that is to provide

information for future trainers, these comments were compiled be site, compared and reduced to the following list which is organized in terms of how, where, and when training should take place, and who should be delivering the training:

How:

1. Do not use the whole system modules, but instead use a few "pieces" of the system for training and gradually build when those are mastered.

2. Individualize training to specific system needs (assessment priorities).

3. Use perks, incentives, and release time to enhance trainee motivation.

4. Use interagency collaboration and sharing of resources to coordinate the system.

Where:

5. Conduct training activities at least in part in the vocational classrooms to actually experiment with equipment, become familiar with materials and understand the program requirements.

When:

6. Use an on-going approach to training, with frequent interventions and follow-up activities, extending the training period to at least one to three years.

Who

7. Use teacher, or local personnel who arre already using CBVA, to conduct the training.

8. Use a daily monitor, technical support person, or aide to assist with implementation efforts.

Finally, the across-site analysis revealed a common perception among individual site participants of the follow-up activity as being an important intervention. The follow-up visitations were reported as renewing interest and activity in CBVA at two sites, and stimulated administrative support at a third site which led to a commitment to provide monetary incentives for future CBVA training participants. All sites viewed the follow-up visitations as a positive activity which validated the field-test experience and provided recognition for participation in the project.

Chapter 5

Summary, Conclusions, Recommendations, and Reflections

Summary

This qualitative study followed-up a field-test training program in curriculum-based vocational assessment involving multiple preservice and in-service sites. The study sought to uncover information about outcomes of the training program in terms of changes in the participants and their work environments. The primary objective of the study was to gain information about participants' attitudes and feelings about the effect of CBVA training on their work with students with handicaps. A qualitative methodology was used to obtain contextual data that would capture the unique conditions surrounding training at each site and provide idiosyncratic details about the implementation process. Findings of the study will be used to improve future training and implementation efforts.

The original field-test training program tested a series of modules designed to prepare special and vocational education personnel in curriculum-based assessment activities for students with handicaps in vocational programs. The field-test involved on-site training in the systematic use of CBVA activities through the collaborative efforts of vocational instructors,special

education teachers, counselors, paraprofessionals, and a system coordinator, the vocational special education resource teacher. Three in-service sites, including Chisago Lakes High School, Minnesota; Monroe High School, Georgia; North Orange County ROP, California; and a fourth "spin-off" site, the Denver Career Education Center, Colorado participated in the three-year project. In addition, six preservice sites, including the University of Georgia, Bemidji State University, the University of Vermont, George Washington University, University of Northern Colorado, and California State University, Long Beach were involved in the field-test training, where university project staff infused the CBVA system into vocational and special needs courses.

A decision to use a purposive sample of the sites resulted from recommendations from project staff, formative evaluation data, and external reviewers. The follow-up study included four in-service site visitations: Chisago Lakes High School (CLHS), Monroe High School (MHS), North Orange County Regional Occupational Center (NOCROP), and the Denver Career Education Center (DCEC). Three preservice site directors were interviewed at those sites which coincided with the in-service site visits, representing a key informant sample of preservice sites. Twenty-eight individuals were involved in a series of in-specific depth

on-site interviews, telephone interviews, and observations during the follow-up process.

The follow-up study design was exploratory in purpose, attempting to discover incidental outcomes of a "field-test" training program. The distinction between "field-test" and "actual" training brought certain methodological issues into focus. First, the training materials and procedures were being formatively evaluated and refined during the field-test. Consequently, cases of full-scale implementation could not reasonably be expected in the follow-up data. Secondly, whereas the CBVA system was fairly structured, field-test training allowed for latitude in adapting the system to the individualized needs of the site. Therefore, the follow-up design clearly needed to be open-ended, flexible, and focused on many levels of implementation. In a sense, the follow-up study was viewed as a continuation of the formative evaluation process, used to gain further insights into the effectiveness of CBVA and the implementation process (Albright and Cobb 1988b).

The follow-up study explored incidental outcomes, attitude changes, and examples of direct use of CBVA. Data about these impacts were organized into categories of (a) increased awareness about asssment issues; (b) improved communication; (c) improved efforts to collaborate in CBVA; (d) the use of direct assessment for either placement/planning, monitoring, and transitional services;

(e) program modifications and the use of support services as a result of CBVA; and (f) systemwide implementation involving changes in policy, staffing, or organization within the work environment. These outcome categories were collapsed into three increasingly comprehensive levels to facilitate analysis. Level one outcomes included changes in communication, awareness, and collaboration; level two outcomes included changes in assessment practices and the use of support services for students with handicaps; and level three included systemwide changes.

On-site observations about contextual factors, including the role of key personnel, the school climate, and examples of continued CBVA training, provided background information to be used for the interpretation of data from each site. A variety of instruments, including the Key Informant Tally Sheet, the Observation Summary Sheet, and the Document Review Sheet was used to reduce and display data in a meaningful way. Data were analyzed using a predictor-outcome matrix to determine what, if any, relationship existed between the various levels of outcomes and the observed conditions that were associated with the outcomes at each site. An across-site analysis, through which site findings were compared and contrasted, was used to determine the generalizability of findings across sites.

Interview responses and observations were subjected to several cross-checking procedures to test their validity and reliability. Specifically, triangulation data were used to weight responses on the basis of convergence of data about each dimension from multiple sources or through multiple methods. On-going analysis cycles, including verification of field notes with respondents and site trainers, and site analysis meetings with the project director, were used to reduce bias and increase confidence in the emergent theories. The data collection procedures, then, were increasingly productive, as they were altered and refined along the way.

Conclusions

The follow-up study resulted in a body of qualitative data from which clusters of training outcomes were identified and ordered according to levels. The first level of outcomes included increased communication, collaboration, and awareness about assessment issues. These areas were considered basic outcomes from which more direct applications of CBVA training would likely develop. This basic outcome level occurred at all of the in-service sites, but was most evident at Chisago Lakes High School.

The second level of outcomes included the use of components of the CBVA system which were identified according to the functional areas of placement/planning,

monitoring, and transitional services as they were organized in the CBVA system modules (Albright and Cobb 1985). A summary of the modules is included in Appendix J. While CBVA was used for all of these purposes to some extent at each of the sites, CBVA was most widely used for placement/planning purposes, less frequently used for transitional services, and infrequently used for monitoring student performance. This pattern was true both within-sites and across-sites, although it was accentuated at DCEC where systemwide implementation entailed CBVA for placement/planning almost exclusively. Data from multiple sources indicated that this specific use of CBVA at DCEC was due to the individualized needs of the site rather than the feasibility or usefulness of this or any other component of the CBVA system. However, the relatively high concentration of CBVA activities used for placement/planning at the other sites, suggested a certain amount of attractiveness of CBVA for that particular use among sites.

Another outcome area clustered within the second level was the use of program modifications and support services as a result of training. This outcome was most prevalent at CLHS where level one outcomes were quite pronounced as well. It is plausible that when communication, collaboration, and awareness of assessment issues improved (level one), the direct use of CBVA activities (level two) would increase as well. Data from MHS were consistent with

this theory, indicating that examples of both level one and level two outcomes were similarly sparse. Finally, at DCEC, where the third level of outcomes, systemwide implementation, occurred data indicated that although outcomes in terms of communication, awareness, and collaboration (level one) were not specifically reported during interviews as having been a result of training, data did indicate that effective communication, knowledge of CBVA concepts and collaboration strategies were essential ingredients of the successful implementation process. This concept of increasingly comprehensive levels of training outcomes was clearly illustrated in the data from each site and across sites. Even at NOCROP, where follow-up data were limited, the pattern was evident; a lack of impact at level one (communication, collaboration, and awareness) seemed to prohibit further outcomes (direct use of CBVA) entirely. The implication of this finding is that training efforts which focus on achieving system objectives according to this pattern of acceptance and learning among trainees in an organizational setting are more likely to be successful.

A second aspect of the follow-up study findings is concerned with four contextual variables which seemed to have had a bearing on the extent of impact across sites. Three site features, the role of the system advocate, the role of the external supporter(s), and the nature of the

work environment, appeared to be directly related to the level of training outcomes that occurred since the field-test training program. A fourth, continued (post-field-test) training, was found to most markedly effect implementation; this relationship was prominently demonstrated in the case of DCEC.

Across-site analysis revealed that the combined elements of effective system advocate leadership, active support from a university or the state, and a positive, progressive work environment contributed to a setting that was most conducive to implementing the CBVA system. The follow-up data revealed that the presence of all of these factors was related to strong incidence of level one and two outcomes (CLHS); the partial presence of these factors was related to moderate incidence of level one and two outcomes (MHS); and the absence of these factors was relate to the near absence of all levels of outcomes (NOCROP). Furthermore, when these three variables (system advocate, external supporter, and work environment) were present along with the fourth (post-field-test training efforts) all three levels of outcomes occurred. Most significantly, the presence of this fourth variable at DCEC resulted in full-scale implementation of the CBVA system at the Center which eventually spread throughout the Denver public schools. These findings suggest that consideration of these implementation variables would be benefical when

selecting a site for future CBVA training and in designing the training program.

Aside from the focus on analyzing the follow-up data for outcome levels and implementation variables, a set of key training guidelines was gleaned from the strategies described at DCEC and recommendations from field-site trainers and participants about the dynamics of system change as they perceived them during and following the CBVA field-test training program. In essence, these suggestions emphasized (a) a piece-by-piece building approach to training, both in terms of content and the training group; (b) an intensive, extended training period involving frequent interventions and follow-up activities; (c) a training staff consisting of teachers or local personnel and technical support aides; (d) an in-class training component to allow for hands-on exposure to the vocational program; and (e) an individualized training approach based on assessment priorities at the particular school.

Interestingly, the impact of the follow-up study itself was noted consistently across in-service sites. The follow-up was viewed as an important intervention; data indicated that interest in CBVA was renewed as a direct result of the visitation, and in some cases, commitments for future involvement with CBVA were made.

In summary, several conclusions were drawn from this study about the impact of the field-test training on

participants and their work environment. Training outcomes had occurred at three levels, encompassing basic effects such as improved communication and improved awareness, more defined impacts such as the use of CBVA practices, and comprehensive changes in the organizational setting. A theory of incremental implementation emerged from the data, as a way of explaining the pattern of outcome levels that occurred both within sites and across sites. A high concentration of data indicating the use of CBVA for placement/planning purposes was observed and was interpreted as a function of assessment priorities at the sites. Recommendations for training and implementation efforts were pulled from the data and analyzed, resulting in a set of guidelines for future trainers about such items as how, when, where, and by whom training would most effectively be conducted. Last, the impact of the follow-up study itself was reported to be an important intervention at each of the sites.

Recommendations

Based on the study findings, recommendations are focused mainly on future CBVA training and implementation efforts. Findings of this follow-up study indicated that the field-test training program produced a wide range of impacts on participants and their work environments. It appeared that these changes evolved in a similar pattern

across sites and that key contextual factors contributed to the extent of impact as well. Future training efforts which start by conducting an initial site assessment of (a) personnel, (b) organization, and (c) current assessment practices could use this information to establish the conduciveness of the site for implementation and to provide a basis upon which a training plan could be developed. The initial site assessment would include an analysis of implementation variables, as they were identified in the follow-up study, to identify "strengths and weaknesses" of the site as they relate to the implementation process. If, for example, no suitable system advocate existed at a site, an appropriate individual might be coached prior to training as to the significance of his or her role. In short, a missing key variable, the role of the system advocate, could be compensated for early in the training process, in an effort to maximize the existing conditions and facilitate the implementation process.

The use of an "incremental" approach to training seems to be an effective way to move toward full implementation of the CBVA system in an organization. Through this approach, training would begin at the basic level of communication and awareness and continue to build on this foundation with efforts to effect change in direct assessment practices and program modifications. Specific functional assessment areas, such as placement/planning,

monitoring, or transitional services, could be covered incrementally as well. As each of these levels of change were achieved, organizational change would become more accessible.

These two recommendations, for a pre-training site assessment and for an incremental implementation approach, are not to be treated as two entirely separate issues. The site assessment, uncovering information about the work environment and current assessment practices, can be used as a tool for gauging the need for concentration of training at each implementation level. For instance, when system advocate leadership, external support, and work environment are all supportive of implementation, the need to train at the basic communication level would diminish. Conversely, when these variables are lacking at a site, greater attention to issues such as interdisciplinary communication and collaboration or to the concept of curriculum-based assessment might be helpful before moving into specific training on particular system components.

Mention of the fourth implementation variable, continued training, has been reserved for separate discussion, since the context of "recommendations for future training" changes the meaning of this variable as it related to the field-test training program. In terms of future implementation efforts, continued training would be a given, not an incidental outcome of field-test training.

However, the significance of the continuity of training efforts, of systematic training and retraining cycles, as they occurred at Denver Career Education Center, is noted and should be incorporated into the implementation process at other sites. The point is that a well-organized procedure is easily repeated; the simple, yet useful "try-out" modules used as a basis for training at DCEC represented a process for implementing CBVA that was quickly integrated into the organizational setting.

Other "training guidelines" as they emerged from the follow-up study, deserve attention in that they were constructed from practioners and trainers, who had the unique status of having been "field-test participants." In this capacity, these informants concurrently experienced and evaluated the training process and for whatever complications resulted from this dual focus, a benefit appears to have been the insight they shared about what worked, didn't work, and might have worked during and after the field-test.

The recommendations of participants at each of the sites, regardless of the outcomes that occurred at their site were surprisingly consistent; in fact, many of these "training guidelines" were training techniques or contextual factors highlighted at Denver Career Center where implementation was successful. Specifically, the emphasis (a) the use of local personnel, or "teachers who

have used CBVA" to conduct training, (b) the individualized tailoring of the CBVA system to site needs and priorities, (c) the "piece by piece" building approach to training content and group, and (d) the use of on-going, on-site training with extensive technical support and interventions were major elements of the proposed strategies for effective training and implementation. Interestingly, two of these recommendations, for individualized training based on a site assessment and for an incremental approach to training, parallel the overall study recommendations. This consistency enhances the credibility of both the informants' perceptions and the study findings. It is seems rather clear, then, that these guidelines would be valuable to the future CBVA trainer.

The importance of the follow-up study cannot be overemphasized; the admission of the impact of the follow-up visitations by participants and the observed effects strongly indicated the follow-up activity was a critical phase of the training process. Trainers should develop an effective follow-up design as both a means of stimulating outcomes and for collecting formative evaluation data.

Reflections

The present study, which used qualitative methods to follow-up a field-test training program, brought to light a true sense of the difficulties and rewards of this type of

study. Several realizations, about the strengths and weaknesses of the study, are discussed here to contribute to the continued, and much needed efforts in qualitative research.

One of the strengths of qualitative research is the depth of data that can be obtained; the rich, contextual data collected through interviews and on-site observations allow for a holistic interpretation of behaviors, events, and responses. The qualitative researcher is struck by the vividness of his or her recollections about conversations and personalitites as he or she reviews and analyzes data. Still, the "undeniability" of the qualitative study is probably questioned most by the researcher, who is uncomfortable with the heavy dependence on judgmental, discriminatory, and intuitive thinking that is an integral part of this methodology.

Fortunately, however, the knowledge base on qualitative data analysis is expanding; the work done by Miles and Huberman (1984) is an excellent example of the extensive guidelines which exist for using qualitative methods in educational research. The intent of these authors, was to find qualitative data analysis methods that were "practical, communicable, and non-self deluding--in short, scientific, in the best sense of the word." (p.15) Since this study used personal interviews as the primary data collection instrument, most of the conclusions are

based on what Van Maanen (1979) refers to as "presentational" data. In his discussion of field research methods, the author differentiates between "operational" (observed) data, which are often spontaneous conversation and activities, and "presentational" data, which concern the appearances the informants wish to maintain or enhance through the reporting of abstract, idealized data (p. 42).

The mistaking of presentational for operational data is one of the pitfalls the qualitative researcher must avoid. Van Maanen offers a solution: "Inference and trust are central matters here and therefore evaluating the believability of what one hears and sees is critical . . ." (p. 44). While this "evaluation of believability" seems like a highly subjective task, in actuality, it is a labor-intensive procedure that entails the same objective measures used in quantitative methods including counting, verifying, and testing procedures.

While there will always be some degree of doubt about the believability of "talk-based" data, the researcher can use a variety of criteria through which the strength of presentational data can be determined. For the present study, the researcher weighed participant responses according to criteria as defined by Miles and Huberman (1984) in an effort to reduce the risk of being mislead by presentational data. Specifically, these authors provided a list of circumstances that strengthen data: (a) when data

are reported firsthand, (b) when the fieldworker is trusted, (c) when data are collected in an offical or formal setting, (d) when data are volunteered to the fieldworker, and (e) when the respondent is alone with the fieldworker.

A second area of concern for the researcher was the reliability of field note interpretation. Although the present study did include getting immediate feedback from participants on interview data, an effort to obtain corroboration from participants on overall site findings was not done in this study. The use of participant reviewers of case study reports as illustrated by Albright (1979) would have increased confidence in study findings as well as served as an additional source of follow-up data.

To further enhance reliability of this qualitative study, it is noted that raw data, including field notes, documents, and other study records are available for those interested in the methodology used in this type of study. Miles and Huberman (1984) used Guba's term--"audit trail" (p.244) to describe the documentation of data and procedures from start to finish as a means of providing a retraceable, confirmable process of analysis. Appendices A through H contain samples of data as they were transformed through various stages of reduction and analysis in this study to supplement records for auditing purposes.

In conclusion, the qualitative analysis endeavor is challenging. There seems to be no simple way to approach this type of data. However, as research efforts using qualitative methodology continue and these studies are documented and shared, this type of study can be more effectively used to uncover the complexities of organizational change in education.

Appendices

Appendix A

Interview Summary Sheet

SITE: MN - CLHS

Interviewee: Mary, Dan (and ...) VC

INTERVIEW SUMMARY SHEET

Outcome	Code	Context	Code
5 ⇒ Principals - ⇒ different awareness of assessment	ASSESS	1. advantages of small system ... large town ... to offer ... range of programs ... ... awareness ... to learn	WE
6. "more they know work samples" -	ASSESS		
- "Plans + Check" 2) Users of -		2) "special ed programs ... "go-getter" "on the ball"	WE
4) "how they know what each other wants ... know what expectations are ..."	COM	- "Agriculture ... people use Voc. Ed. programs" (Ag. is part of them going to get "Ag. Mechanics" or Pre-Voc)	
8 ⇒ How have more in-depth understanding of what is done in different Voc. Programs	COM	3. "very receptive Voc. Ed people" ... good relationship between SE + VE	WE
9 ⇒ Non-Voc. assist principal)	3. COM		
- How get into classroom more ...			
- Res. need for counselors to get into classroom ...			

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Appendix B

Key Informant Tally

SITE: MN

KEY INFORMANT CHECKLIST

INFORMANT	IDENTIFIED PERSON	REMARKS
SSE (Jackie)	Diane M VSE&T	She knows her job well, She's organized
VI (Laurie)	Diane M VSE&T	good about providing background
VC Admin	Diane M VSE&T	her heart is there" God person has background, knowledge "mover + shaker" "We are ready" personality good Can talk you into Something nicely but aggressively"

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Appendix C

Observation Summary Sheet

OBSERVATION SUMMARY SHEET

SITE: MN

MAJOR OBSERVATIONS	REMARKS
9 (cont'd) adequate for most C & programs ⇒ so assessment teacher & program for C & most likely needed for. Problem re: try & develop a C & math program to prepare students for math skills available C & programs.	forms this sent immediately during Tour & pre-interview) enthusiasm. high
- discuss w/ S's, described S's ability battery she to use for S & students to assess for interest in C & programs - felt being assessed w/ S & Std not good set pegan pencil tests.	- CBVA placement - performance based direct measure
discuss C (SEET) requirements - have flexible org. academic credit for voc. programs (i.e. Science for Ag)	enthusiasm - very receptive
10. (Sampling) had asked Deans to arrange for me to meet w/ whomever she felt I could get productive data from - She scheduled me to meet w/ all participants	high level of involvement + motivation to project ⇒ enthusiasm - Deans verified I "all good + cont cooperation during term"

Appendix D

Site Analysis

Site Analysis

Site: CLHS

Significant Outcomes:

Instructors, spec. ed. teachers, and VSERT are all actively involved in using CBVA procedures to assist special needs students in the areas of:

- communicating program options (parent form, slide interest battery)
- planning (IEP involvement)
- monitoring
- transitional services (Diane)

* slide interest battery - VSERT
* support math program for V.E. programs
* hiring of job coach for supportive employment
* numerous examples of performance samples - entry-level assessment instruments
* tools used for on-going assessment - monitoring

* plans to have a career night to inform parents/students about program options -- use slide interest battery as visual presentation
* exploratory vocational curriculum--for s.n. 2 week segments of a variety of vocational programs

Emerging Themes:

1. The involvement of a highly valued, influential individual as system advocate/coordinator of training is essential for implementation.

2. The follow-up activities allow an opportunity for project staff/participants to rethink importance of CBVA and to renew interest and productivity.

3. School environment positive, progressive--personnel viewed themselves as a "winning team" -- spirit of cooperation, commitment, professionalism--sense of pride were apparent.

4. (Len) High level of state support for vocational education is advantageous for schools implementing an innovative program. (for resources and diffusing and disseminating approaches and products.

Appendix E

Interview Schedule 1: Trainers

Interview Schedule 1: Trainers

Emphasis: a) Data regarding impact of pre-service data and b) Directions for follow-up of in-service training.

1. You were the pre-service trainer at site X. How would you describe that experience? Generally positive? Negative?

2. Why did you chose this site?

3. Do you feel that pre-service participants had a good grasp on the philosophy, concepts, and techniques associated with CBVA training? Prior to and/or after the training program?

4. Since completion of the training program have you received any information regarding changes at the site(s) in terms of assessment practices and policies? Do you see these as a result of training?

5. You were involved with in-service and pre-service training. To what extent are you presently involved in CBVA training activities? Related course? Consulting? Workshops?

6. You were also involved to some extent in the in-service training at site X. Could you describe that involvement?

7. Have you received any information regarding outcomes of in-service training at X site?

8. Is there a particular individual or group of individuals from whom you feel I could get information about impacts of in-service training?

Appendix F

Interview Schedule 2: System Advocate

Interview schedule 2: System Advocate (VSERT)

Emphasis: a) Data regarding identification of key implementer and b) System-wide impactsof in-service training.

1. How would you describe your role here at (site X)?

2. Would you describe yourself as the lead person in the field-test training? Did you function more as a coordinator, or a system advocate? If not, whom do you see as the lead person within your school?

3. How would you describe the field-test training? Generally negative or positive?

4. Do you feel you have a good understanding of the basic concepts of CBVA? characteristics of CBVA?

5. Do you feel the other trainees understand CBVA processes? CBVA concepts?

6. Has you notion of assessment changed as a result of CBVA training? How?

7. Has your function as _____ changed as a result of training? How?

8. Have you observed any changes in the assessment practices of your colleagues since training? Please identity them by personnel role.

9. (If yes to above) Do these changes relate to placement, planning, monitoring, or transitional services?

10. Have you been involved in any further training related to CBVA?

11. What would you say was the greatest benefit of CBVA training? for your school? for you?

12. What would you say was the most outstanding problem with the training program?

Appendix G

Interrview Schedule 3: Administrators

Interview Schedule 3: Administrators

Emphasis: a) Data regarding administrative support of in-service training, b) system-wide impacts of training.

1. How would you describe your involvement in the in-service training?

2. How would you describe current assessment practices at your school? For placement and planning? Monitoring? Transitional services?

3. Have any of these practices changed as a result of CBVA training?

4. Have you observed any changes in policy, resource commitments, staffing at your school which you feel are a result of CBVA training?

5. What is you sense of the reaction of staff members who participated in the CBVA training program to the training?

6. Have you observed any change in attitude among staff regarding assessment practices since training?

7. Whom would you recommend as a contact person for additional follow-up information?

Appendix H

Interview Schedule 4: Vocational Instructors, Special Education Personnel, Guidance Counselors

Interview Schedule 4: Vocational Instructors, Special Education personnel, Guidance Counselors

Emphasis: a) Data regarding impacts of training on their assessment practices with students, b) collaboration with colleagues, or c)awareness of support services, etc.).

Placement

1. Are you involved in any assessment procedures related to the placement of special needs students in your program?

   Do you take a lead role in that assessment activity? collaborative? minor?

   Has this function changed as a result of CBVA training?

Environment Assessment

2. Do you assess your classroom environment in terms of equipment, materials, teaching methods and style with regard to special needs students? Do you make adjustments to a program to accomodate special needs students in your class?

3. Do you communicate this information to counselors, special education personnel, students, or parents?

4. Are you ever approached by counselors, vocational instructors, special education personnel, students or parents about the classroom environment with regard to a special needs student?

5. Have any of these assessment activites related to student placement and planning changed as a result of CBVA training?

Planning

6. How do you plan for a special needs student's program? With whom do you collaborate? Do you perceive these activities as being a result of CBVA training?

7. Do you use support service to help special needs students succeed in your program?

8. How do you select these services? Do you receive assistance in selecting these servcices? Do you perceive your use of support services as having changed since CBVA training?

Monitoring

9. Do you monitor special needs students to determine if and when they meet objectives and if and when they need support services? What techniques do you use?

How often do you monitor these students' progress?

10. What kind of interventions do you make when they're needed?

    Do you typically communicate this information to parents, students, counselors, etc.?

11. Do you see your monitoring techniques as having changed as a result of CBVA training?

Transitional Services

12. How do your assess the level of proficiency of special needs students as they complete your program?

    Does the student take part in the evaluation of his or her progress?
    Do you meet with other staff members or parents to discuss this evaluation?
    Do you see these evaluation procedures as having changed as a result of CBVA training?

13. Do you help plan for a special needs students's activities subsequent to his or her completion of your program?

    Do you assist him or her with reviewing available options?

Do you percieve your involvement in a student's transitional
plan as having changed as a result of CBVA training?

Professional Development

14. Are you involved in any professional development activites related to the CBVA training? (Courses, workshops, seminars, etc.)

General

15. What would you describe as the most significant outcome of CBVA training?

Appendix I

Data Summary Sheet

Data Summary Sheet

Site: MN - Chisago Lakes High School

Outcomes

Communication

1. There is improved communication among trainees.

- better relations between VI, and SSE's.
- better understanding of each other's jobs.
- better understanding of various vocational programs.
- better relations between VC's and VI's and SSE's.
- better understanding (VI's and SSE's) of the registration process.

Comments:

1. "It brought us together in one place, usually there is no time for this."

2. "Communication opened up through training."

3. "Training really brought the vocational instructors together."

4. "The most outstanding benefit was the awareness of what each other did and that it brought the staff together."

5. "Training was excellent, though--getting teachers together and finding out what the Special Education people do--was great!"

6. "There has always been a general feeling among teachers that Special Education teachers have a low student ratio--an easier job--and there has been some apprehension about this. CBVA training has alleviated some of this."

7. "The comraderie between vocational instructors has improved--we're more aware of each other's programs. It brought people together as friends."

8. "It was critical that members got together and discussed--this was a vehicle for communication."

9. "It is important that we're all coming from the same angle." (Mentioned in discussion of benefits of CBVA as a communication tool.)

10. "Now they <VSERT and VI's> know what each other wants--they know what expectations are now."

11. "Now we have a more in-depth understanding of what is done in different vocational education programs."

12. "It brought teachers together--was an official connection--this never happened before."

13. "This is really VSERT's job, but now we're more open to her ideas--more flexible, because we know where she's coming from."

Summary:

13 responses indicating that overall benefit of CBVA training was improved communication among staff members:

SSE - 1 (4x) = 4
VI - 1,1,1,1, = 4
VSERT - 1 (2x) = 2
VC - 1,1 (2x)G, = 3

Awareness

2. There is an increased awareness of assessment issues and concepts as they relate to special needs students among trainees.

- more aware of current (pre-CBVA) assessment practices and how to improve upon them.

- more aware of assessment areas that need work, i.e. transitional services, placement, planning, and monitoring

- changed perception of assessment - to identify weaknesses, not as a "weeding tool".

- "consiousness-raising" about special needs students

Comments:

1. "I'm more aware of the assessment procedures being

used by counselors and am better informed on how to use them with my <special education> students."

2. "We need to do more work in the area of transitional services for special needs students--we see this as an ares lacking as a result of CBVA training."

3. "We (VI's)s would like to see more help in the area of screening--we need help with looking at curriculum and making adjustments for special needs students--with the ecological assessments."

4. "There's been a change in awareness of each other's programs, of special education tests, functions--and I think more about assessment of special needs people."

5. "I use assessment, not as a weeding tool, but for identifying weaknesses."

6. "We realized we need to do more work on placement, and career planning."

7. "My perception has definitely changed--I'm so much more aware of things to change."

8. "I find time because we must meet their <special education student's> needs to help them survive".

9. "My monitoring methods are informal--I need to work on these."

10. "They all realized the importance of CBVA for special needs kids."

11. "Training more vividly pointed out to instructors the student needs."

12. "We need to look more at transitional service options after we've done all we can <for a special needs student>.

13. "Training has had a consciousness-raising effect on all of us."

14. "We pay more attention to prerequisites."

15. "Now we look more at work samples as an assessment tool."

16. "I'm now more aware of what's expected of regular

students in the vocational programs."

17. "I now have a better handle on when there's a problem with a special need student."

Summary:

17 responses indicating an increased awareness about assessment and special needs students

SSE - 1 (4x) = 4
VI - 1, 1 (5x) = 6
VSERT - 1 (3x) = 3
VC - 1 (2x), 1 (2x) = 4

Collaboration

3. Trainees are collaborating to conduct CBVA activities and are utilizing the results to ensure success for special needs students.

- Vocational instructors are providing special education teachers with information about their programs to be used for placement and planning assessment activities.

- Vocational counselor is visiting classrooms to become more familiar with vocational programs to aid in assessment activities for placement.

- Vocational counselors collaborate with VSERT for registration of special needs students.

- Vocational instructors are collaborating with VSERT to provide support services for special needs students.

- Vocational instructors are taking part in the IEP process.

- Vocational instructors are collaborating with VSERT to create assessment tools and make program modifications.

Comments:

1. SSE now collaborates with horticulture VI to assist in developing science curriculum for his special needs students.

2. VI explained to other VI in a joint interview that when he needed help with a student, he would go to

VSERT and that she would help him, stressing the need to initiate the contact.

3. VI now collaborates with VSERT and SSE and is "more likely to catch problems earlier by discussing deficiencies with them."

4. VI explained that she was more apt to use special education services as a result of training--now she "demands it."

5. VI explained that now "she finds a way to get help--before I got frustrated and either lost the student or <the student> had behavioral problems."

6. VI described case of special needs student who became quite successful in his program and attributes her progress to his collaboration with VSERT which resulted in arranging an extra hour per week for the student to keep up.

7. VI now collaborates with VSERT and SSE "to find a way for them <special needs students> to pass--otherwise they would have failed."

8. VI explained how "after first week, I go and get needed support from SSE."

9. VI stated that she was "almost always involved in the IEP process--and if it's not possible for me to attend, I provide written input."

10. VI described an assessment tool she and VSERT created which is now used for placement in her program.

11. VC's explained how the registration process had changed as a result of training and that now a list of special needs students entering the school would be sent immediately to the VSERT for placement.

12. VI works on IEPs now and helps to identify realistic goals for special needs students in her program.

13. VC stated that he gets into the classroom more now and sees how important this is for assisting in the placement process.

14. VI described how he collabored with VSERT and SSE to revise the entry-level skill assessment tool he developed in automotive program.

Summary:

14 responses indicated that staff members were collaborating to provide assessment services for special needs students as a result of training.

VI - 1, 1, 1, 1, 1 (2x), 1 (2x), 1 (3x) = 11
VC - 1 (2x) = 2
SSE - 1 = 1

Direct Assessment Activities

4. Trainees are using assessment activities which are directly integrated into the curriculum of the student's vocational program including,

direct assessment activities during placement and planning;

Comments:

1. "I learned what the Career Assessment Inventory was as a result of CBVA and learned how to adapt it to use with my special needs students. I go through it with them one by one and although it's time consuming, it's very helpful."

2. "I developed a form for communication with the parents which I use at IEP meetings. I've gotten some very interesting information from parents which helps me with planning."

3. A vocational instructor developed a general automotive background assessment tool to be used to asses entry-level skill and to facilitate planning of student's program.

4. A vocational instructor uses a perspective drawing assignment as an entry-level assessment tool to facilitate planning of a student's program.

5. A vocational instructor uses the tools she developed during training as assessment tools for planning students' programs and finds that some of the materials she had been previously using can now effectively be used as assessment tools for planning purposes.

6. Vocational instructor uses equipment ID assessment instrument for assessing skill level at entry.

7. VSERT developed slide interest battery to assess student interest in vocational programs in the 10th grade and uses data for placement of special needs students.

8. SSE developed and teaches a third alternative vocational math support class as a prerequisite for special needs students going into vocational classes which require a certain level of math skill. The program was developed through collaboration with all vocational instructors and the VSERT by assessing vocational programs for math skill requirements for entry.

and direct assessment activites during transition from program into employment or alternative:

comments:

9. "Training helped me to formulate better questions for social service agencies, like the Department of Vocational Services and I found out more about the Day Activity Center (sheltered workshop).

Summary - 9 responses indicating trainees were using direct assessment activities during placement, planning, and transition into employment or an alternative.

VI - 1, 1, 1 (2x) = 4
SSE - 1 (3x), 1 = 4
VSERT - 1 = 1

Program Modifications and Support Services

5. Trainees have used CBVA data to make program modifications and to provide support services to ensure the success of special needs student in their programs.

- Vocational instructors have developed a number of strategies for adapting curriculum and instruction to support special needs students in their programs.

- Vocational instructors are using aides, peer tutoring, and special education services to ensure the success of special needs students in their programs.

Comments:

1. Special education teacher uses two aides for monitoring student progress and for providing constant support in the vocational classrooms.

2. Vocational instructor broke task lists for his program into finer detail, slowed time frame, and uses special services to tailor program to special needs students and finds that they're more successful.

3. Vocational instructor more clearly defined semesters of his program to accomodate special needs students.

4. Vocational instructor uses aides for montoring progress of special needs students in her program.

5. Vocational instructor uses peer tutoring for special needs students in her program.

6. Vocational instructor uses labs, demos, aides, worksheets, individual instruction, and reads tests aloud as support services for her special needs students.

7. Vocational instructor uses computer tutorial for extra keyboarding practice for special needs students in his program.

8. Vocational instructor says aides are very important in ensuring success for his special needs students.

9. Vocational instructor uses an aide one to two days a week as support for her special needs students.

10. Vocational instructor saw need in curriculum to "add steps between A and B" for special needs students in her program.

11. Vocational instructor developed additional worksheets in skill development for her special needs students.

Summary: 11 responses indicated that trainees were adapting their curriculum and instruction and using support services to ensure the success of special needs students in their programs.

VI - 1 (2x), 1 (2x), 1, 1 (2x), 1 (3x) = 10
SSE - 1 = 1

<u>Satisfaction with Training</u>

6. Trainees perceived CBVA as being a viable system of

assessment and noted several benefits of the training.

Comments:

1. Academic instructor (former vocational instructor) felt the system had great possibilities: it avoided duplication of efforts, will increase efficiency after start-up time, will allow teachers to keep closer tabs on students, allow for more interventions--quicker, more vocational instructor involvement in the IEP process, and more involvement of parents.

2. Academic instructor found training interesting and stated that although he liked the discussion format, he felt that others probably would have benefited more from a step-by-step delineation of modules. He also recommended that the system include mechanisms for secondary/post-secondary linkage.

3. VSERT felt that CBVA is "the way to go--because it makes use of the resources and people we have." Also commented that CBVA is a "common ground", "much needed tool" and a "great start for changes". After 15 years in the field, she said that she had seen the need for CBVA from the beginning.

Summary: 2 respondents specifically commented on the positive aspects of the CBVA system and training.

AI/VI - 1
VSERT - 1

7. Trainees were skeptical of or had ambivalent feelings about CBVA training.

Comments:

1. Vocational instructor said he had been skeptical of training. He "felt his class was not conducive to CBVA because it was not really an entry-level class and it required a lot of writing. He explained that this was true because his program required "intrinsic and extrinisic motivational skills" and a strong math background. Also, he explained, it was too difficult to assist students on an individual basis because he had such a large class. He felt available tutorial services were not reliable and that special education services were loosely and he had not had much success in using them. He commented that "you could have all

the training in the world, but no time to do it." His ending comment was, however, that "training was excellent, though, getting teachers together and finding out what Special education people do was great!"

2. A vocational instructor commented that training was great, but that CBVA was not feasible, that she had had her doubts all the way. She commented on how there were always "studies, studies, studies, and no time to do these things." Her final comment was that the only way it could work would be with aides and release time to work on it.

Summary: 2 respondents made comments that expressed skeptical or ambivalent feelings about training and the feasibility of CBVA training.

VI - 1, 1 = 2

Role of Administration

8. There was little or no involvement of administration in training process or implementation.

Comments:

"We were in between superintendents during the CBVA training and there was little involvement from administration."

"We were switching superintendents during training and they were not involved. The administration likes to try new things for P.R. reasons but there's no real support--no release time."

"The administration is supportive if there is a need--they're change oriented."

Summary: 3 responses indicated that administration had liitle or no involvement in the training process or implementation except to endorse the decision to participate as a field-test site.

VI - 2
SSE - 1

Professional Development

9. Participants felt that training had impacted their professional development by either expanding their

role or stimulating them to pursue further professional development in special education or assessment of special needs students.

Comments:

1. VSERT sees her role as expanding; she sees herself doing more work in transitional services, working with the community agencies. She's presently working on an employment package with employers involving financial incentives for her work experience class.

2. Vocational instructor sees herself possibly taking more courses in vocational education or special education towards a masters degree. She now sees the need for special education support in curriculum.

Summary: 2 responses indicated that trainees felt that training impacted their professional development by either expanding their professional role or as a stimulus to pursue further education in the area of assessment of special needs students.

VSERT - 1 = 1
VI - 1 = 1

Observations:

<u>School Climate</u>

1. Personnel at this site demonstrated a positve and cooperative attitude during follow-up activites.

- All trainees attended a reception on Monday morning for follow-up orientation.

- During tour of facilities teachers were eager to talk about their programs and enthusiastically described how they were using CBVA in their programs.

- Office personnel offered their assistance and support during follow-up activities.

- VSERT had scheduled all trainees to participate and be interviewed for follow-up as a response to my request to include anyone whom she thought could provide useful follow-up data. All participants were

available for interviews according to the schedule she prepared.

2. The site demonstrated pride in their staff and facilities.

Comments:

"We're pleased with the staff and facilities--everyone is very cooperative."

"The school was picked by the state as a school of excellence."

"This is an impressive group of vocational instructors--we're unique in this respect."

"I feel that this school is progressive and despite other offers, I choose to stay here."

"The school is involved in a lot of innovative state programs--we're a model school."

The business program had received highest local award--the "SPIRIT" award and the walls of the business program office were covered with awards and letters of recognition.

The VSERT kept a scrap book for the work experience program which documenting years of community events, newspaper clippings, and student projects and accomplishments.

<u>System Advocate</u>

3. The system advocate, the VSERT, was a highly valued staff member.

- She had gained the support of all staff members for the follow-up activities.

- She was repeatedly mentioned during interviews as recorded on the Key Informant Tally, and praised for her outstanding qualities.

"She knows her job well."
"She's very organized."
"She's good about providing background on special needs students I have in my program."
"Her heart is there."
"She has the background, and knowledge."

"She's a mover and shaker."
"She wears easily--she has a good personality."
"She can talk you into something nicely--not aggressively."

Comments came from vocational instructors, special education personnel, and counselors, and administrator.

Appendix J

CBVA Module Summary

ABSTRACT
Module 1

Establishing a Curriculum-Based Vocational Assessment Process

GOAL

This module has two interrelated goals:

1. To present a collaborative team process for establishing curriculum-based assessment practices in local vocational education programs.
2. To increase participant understanding of the full range of vocational education and special services available to students with handicaps in the local district.

CONTENT SUMMARY

Module 1 consists of two parts. Part I provides a series of steps and considerations for local team members to use in establishing a CBVA process. A major outcome of this activity is the development of a local action plan for expanding and improving assessment services.

Part II is concerned with procedures for ensuring that parents, students and educators are knowledgeable of the programs and services available through vocational education in the school district. Strategies for increasing parent, student and educator understanding of these programs and services are provided.

KEY ASSESSMENT QUESTIONS

1. To what extent are students with handicaps, their parents and educators aware of and knowledgeable about vocational education and special services available in our district?
2. What are the vocational assessment practices and needs within our district?
3. What changes will be necessary in order to successfully establish a CBVA process within our school district?

Note. From L. Albright, 1988c, Assessment of students with handicaps in vocational education: A curriculum-based approach, Arlington: American Vocational Association, p. 15.

ABSTRACT
Module 2

Understanding Curriculum-Based Vocational Assessment: Purposes and Characteristics

GOAL	To increase participant knowledge of: 1. The central purposes and features of a CBVA process; and 2. The relationship between a CBVA process and the content of this training program.
CONTENT SUMMARY	The first section of the module is a description of the key elements of CBVA. The second section illustrates how the training program is organized around the major purposes of a local CBVA effort.
KEY ASSESSMENT QUESTIONS	1. What is CBVA? 2. How is the content of the training program organized?

Note. From L. Albright, 1988c, Assessment of students with handicaps in vocational education: A curriculum-based approach, Arlington: American Vocational Association, p. 17.

ABSTRACT
Module 3

Placing Students in Vocational Education Programs

GOAL	To assist local personnel in implementing systematic CBVA procedures for determining appropriate vocational education placements for students with handicaps.
CONTENT SUMMARY	A series of steps is provided for a local CBVA team to follow in helping a student select the most appropriate program option in vocational education. A variety of assessment for placement methods is described and illustrated.
KEY ASSESSMENT QUESTIONS	1. Is vocational education the best or most appropriate curriculum for the student? 2. Which vocational education program is most appropriate for the student?

Note. From L. Albright, 1988c, Assessment of students with handicaps in vocational education: A curriculum-based approach, Arlington: American Vocational Association, p. 19.

ABSTRACT
Module 4

Planning the Student's Vocational Education Program

GOAL	To increase participant knowledge and skills in conducting assessments which identify the special service needs of a student in a vocational education program.
CONTENT SUMMARY	The module begins with a discussion of important differences between assessment for placement (*Module 3*) and assessment for program planning (*Module 4*) activities. This is followed with guidelines for conducting two types of assessment for program planning procedures: 1. A content-specific survey; and 2. A vocational program inventory. The results from these two assessments will address the key questions identified below.
KEY ASSESSMENT QUESTIONS	1. Is this particular student eligible to receive support services in his/her particular vocational education program? 2. In what particular areas of instructional remediation should support personnel focus to ensure success for a student in his/her vocational program? 3. What is the nature and intensity of support services necessary to deliver this instructional remediation? 4. What criteria should be applied to a student's performance which reasonably reflects the success norms of the vocational program?

Note. From L. Albright, 1988c, Assessment of students with handicaps in vocational education: A curriculum-based approach, Arlington: American Vocational Association, p. 21.

ABSTRACT
Module 5

Monitoring Student Progress

GOAL	To assist local vocational education and special services personnel in establishing coordinated procedures for monitoring student performance in vocational education.
CONTENT SUMMARY	This module focuses on the use of assessment and monitoring procedures while the student is completing her/his vocational education program. Four basic considerations in establishing a coordinated monitoring system are presented, along with example techniques and forms.
KEY ASSESSMENT QUESTIONS	1. Which areas of student performance need to be monitored? 2. What are the procedures to be used? 3. How frequently should student progress be measured? 4. Who is responsible for monitoring student progress?

Note. From L. Albright, 1988c, Assessment of students with handicaps in vocational education: A curriculum-based approach, Arlington: American Vocational Association, p. 23.

ABSTRACT
Module 6

Planning Transitional Services

GOAL	To assist local vocational education and special services personnel in determining the special services needed by a student as she/he exits vocational education and enters new employment and/or training environments.
CONTENT SUMMARY	The module opens with a brief discussion of the rationale behind the transitional services initiative for individuals with handicaps. The various options for transitional service delivery are subsequently described, as are the assessments which need to occur in planning and monitoring a student's transition. A case study of one student is presented to illustrate the types of assessment activities that take place during the transitional period.
KEY ASSESSMENT QUESTIONS	1. In which outcomes (either postsecondary education, training or employment) will the student be functioning upon graduation? 2. What services will the student require at his/her selected option? 3. Who will be responsible for monitoring the student as she/he transitions into the new environment? 4. How effective are the special services in helping the student succeed in the new environment?

Note. From L. Albright, 1988c, Assessment of students with handicaps in vocational education: A curriculum-based approach, Arlington: American Vocational Association, p. 25.

ABSTRACT
Module 7

Evaluating the Curriculum-Based Vocational Assessment Process

GOAL	To assist local personnel in evaluating the effectiveness of the CBVA process in determining appropriate vocational education and special services for students with handicaps.
CONTENT SUMMARY	A series of steps is provided for organizing, conducting and reporting an evaluation of a locally-based CBVA process. A team approach to this evaluation is advocated. Sample instruments and forms are also provided for team member use.
KEY ASSESSMENT QUESTIONS	1. How effectively is the CBVA process working in our district? 2. What improvements are needed to strengthen the CBVA process?

Note. From L. Albright, 1988c, Assessment of students with handicaps in vocational education: A curriculum-based approach, Arlington: American Vocational Association, p. 27.

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